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JAN 12 1948
DETROIT

INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
It Couldn't Happen
All the Traffic Will Bear
How High Can Prices Go?
Allowances for Advertising
Anti-Inflation Suggestions

Story of the Week

A famous restaurant in Hartford, Conn. (ask Jim Hatch and Ed Flannery of Bush Mfg. Co. to take you there) recently celebrated its 100th anniversary with a menu comparing conditions then and now. Said the menu:

"We opened in 1847, when women wore hoop skirts, frilled cotton drawers, did cleaning, washing, and ironing, raised big families, went to church Sundays and were too busy to be sick.

"Men wore whiskers, chopped wood, bathed once a week, drank 10¢ whiskey and 5¢ beer, worked 12 hours a day and lived to a ripe old age.

"Stores burned coal oil lamps, carried everything from a needle to a plow, trusted everybody, never took inventory, placed orders for goods once a year in advance, and always made money."

This, of course, was the era which orators have in mind when they talk about progress. We have progressed since then. What have we progressed to? The centenary menu makes it perfectly plain:

"Now women wear an oz. of underwear, smoke, paint, powder, drink cocktails, have pet dogs and go in for politics.

"Men have high blood pressure, little hair, bathe twice a day, are misunderstood at home, play the stock market, drink poison, work five hours a day and die young.

"Stores have electric lights, cash registers, elevators, never have what the customer wants, trust nobody, take inventory daily, never buy in advance, have overhead, mark-down, stock control, Dollar Day, Founder's Day, Economy Day—and never make any money."

It Couldn't Happen

H. C. L. Jackson records an almost impossible tale, but vouches for its truth:

"Chick Kirk, electrical appliance dealer at Manchester, Mich. is going to do something about this door-prize business:

"Kirk has two competitors in Manchester: Basis McGuire and Clyde Leake.

"Not so long ago, Kirk, sort of to steal a march on the Competition, and to stimulate sales, had a big display of electrical home-helpers in the high school auditorium.

"To encourage attendance, he let it be known that he would give away four desirable door prizes, all of them electric appliances. Well:

"The first two were won by Competitor Leake's brother-in-law.

"The third was won by Competitor Leake himself.

"Something must have slipped, because the fourth actually went to a potential customer. At least, to a man who wasn't related to the Competition. But:

"Pretty soon, Manchester's merchants had the pleasant bite put on them to hand over something to be donated at the Village Fair.

"Civic-minded Kirk passed over an electric toaster. It was won by Competitor McGuire's father-in-law, Jack Schill.

"By then, Kirk was as hot as the toaster. But:

"When the businessmen offered gate-prizes at a local foot ball game,

(Concluded on Page 14, Column 2)

Saving of Space Marks '48 Lines

* * *

7 Models Feature New Norge Line

DETROIT—Featuring greater storage capacity without added floor space, a new line of seven refrigerators was unveiled by Norge Division of Borg-Warner Corp. at the mid-winter furniture mart in Chicago last week.

Addition of an apartment-size 6 cu. ft. model, installation of the automatic defrosting mechanism in the refrigerator door at eye level, and new interior styling are other features being stressed by Norge, according to M. G. O'Harra, vice president and director of sales.

More compact design of the line was obtained through a new assembly of the condenser-compressor unit

(Concluded on Page 4, Column 3)

2 Small Refrigerators Developed by Ultra-Cold

LOS ANGELES—Two new refrigerators and a refrigerated drink dispenser have been introduced by Ultra-Cold, Inc. here.

Both refrigerators are small, one being a 4-cu. ft. model and the other a 3½-cu. ft. box designed for built-in applications in either apartments or house trailers.

The 41S 4-ft. apartment house model measures 40 in. high, 24 in. wide, and 20 in. deep and is finished in baked white enamel inside and out with a No. 4 finish stainless steel top. Powered by a hermetic compressor, the box is fitted with a two-tray

(Concluded on Page 25, Column 3)

NERA To Map Policies In Chicago Jan. 18-21

CHICAGO—Two and a half days of work to determine official association policies, followed by a half-day session with representatives of more than 50 electrical manufacturers, form the bulk of the program for the Leadership Conference of the National Electrical Retailers Association to be held in the Sheraton hotel here Jan. 18 through 21.

Sandwiched between these work sessions will be luncheon addresses by representatives of a distributor, utility, and manufacturer, according to C. C. Simpson, managing director of the association.

Other outside authorities have been called upon to discuss with the dealers matters under consideration at the work sessions, Simpson said.

In their meetings, the appliance and radio dealers will take up such problems as builder sales, future franchising, dealer costs, discount selling, Fair Trade pricing, price and

(Concluded on Page 29, Column 2)

New Refrigeration Code Adopted In Los Angeles

LOS ANGELES—The city council here has adopted a new licensing and safety code covering refrigeration contracting, sales, service, and installation which will become effective this month.

The Refrigeration Contractors Association, Inc. here was active in the revising and adoption of the new code, along with other interested groups.

Examination and licensing of contractors is provided by the new code, but mechanics or workmen need not pass examinations or be licensed.

No requirement for a surety bond to be filed with the city is required by the new code. The city did have such a requirement for a number of

(Concluded on Page 29, Column 1)

Leonard Introduces Line of 5 Models

* * *

DETROIT — A five-model line of refrigerators, the top three of which feature full-length doors and top-to-base refrigeration, has been introduced by Leonard Division of Nash-Kelvinator Corp.

Prices range from $214.95 up to $359.95, said to be approximately last year's levels.

Interiors of the three new Leonard super deluxe models have been so completely redesigned that the entire inside of the cabinet is now refrigerated, explains Walter L. Jeffrey, sales manager.

Conventional designs called for refrigeration about three-quarters of the way down, with doors cut off accordingly; the remainder of the space was taken up by an unrefrig-

(Concluded on Page 4, Column 1)

G-E Adds 10-Ft. Model To Retail at $284.75

BRIDGEPORT, Conn.—A new 10-cu. ft. refrigerator designed primarily for farm use and for other people requiring large refrigerated storage space at reasonable price has been introduced by General Electric.

According to L. H. Miller, manager of the company's household refrigerator division, the new model, designated the NB-10, will be available in January at a recommended national retail price of $284.75.

A newcomer to the G-E space-making line, the refrigerator provides 10.3 cu. ft. of storage space. The

(Concluded on Page 29, Column 1)

Electrical Union To Ask Substantial Wage Boost

NEW YORK CITY — The United Electrical Workers (CIO) will demand substantial wage increases from General Electric Co., Westinghouse Electric Corp., and the electrical division of General Motors Corp. when contract negotiations for 1948 begin early next month.

Health and welfare insurance and a pension plan will also be sought.

That decision was reached by 300 union delegates representing 300,000 electrical workers across the nation at a two-day conference held in the Park Central hotel here last week.

James M. Matles, national director of organization for the union, dis-

(Concluded on Page 29, Column 1)

Additional Price Cuts Unlikely, Say Appliance Mfrs. at Marts

By Phil B. Redeker and John O. Sweet

CHICAGO—Prices were the big topic of conversation as the winter marts opened here, but there was very little news in the conversation because refrigerator and major appliance prices, other than those announced the week previously by General Electric and Hotpoint, were not in the picture.

There were a number of "on-and-off" the record pronouncements concerning appliance prices, gist of which was that prices would stay pretty much as is, until there is some break in labor and material costs.

"We contemplate no over-all price reductions," J. H. Ashbaugh, general manager of the Westinghouse Appliance Division was quoted as saying. "If we increase our production efficiency on certain individual items, we might be able to reduce the price on those particular items."

Said the sales manager of another major producer:

"We think we'd be silly to reduce prices now and then find that in two or three months we'd have to raise them back again because of increased labor or material costs."

John Ganzer, president of Coolerator Corp., declared that "right now we see no reason for either decreasing or increasing prices."

From the floor sales talks being given it was evident that competitive "battle lines" were being drawn on the theme of "more refrigerator for the same money." Some of the new lines just recently announced are emphasizing this point.

Furniture producers, who were quoted at the Mart seem to be preparing the trade for some possible price increases, pointing out that costs of materials in the first half of 1948 were expected to go up 5 to 15%, and that there had been a recent wave of wage increases in the country.

Kelvinator, Frigidaire, General Electric, Hotpoint, Coolerator, and Norge were showing previously announced new lines of refrigerators at the marts.

Crosley officials indicated that new refrigerator models would be introduced later in the spring. Westinghouse, showing new water heater models and a new clothes dryer, may have some new refrigerator models out in a month or so. A redesigned Westinghouse Laundromat automatic washer is also due to make its bow before too long.

New Westinghouse dryer is priced at $219.95. The water heater line goes from $85.95 for the 10-gallon eader model to $196.95 for the 80-gal. deluxe model. Dryer will be available on a limited distribution basis for a while.

Norge is pricing its new 1948 line as follows:

D-648, 6 cu. ft.	$199.95
S-848, 8 cu. ft.	239.95
D-848, 8 cu. ft.	279.95
ND-848, 8 cu. ft.	319.95
NSD-1048, 10 cu. ft.	359.95

Furniture stores accounted for nearly one-fifth of Frigidaires refrigerator volume in 1947, it was stated by H. M. Kelley, Frigidaire appliance sales manager.

New prices of General Electric and Hotpoint appliances affected by the recent 3 to 10% reductions were disclosed during the markets.

Present and former prices on G-E's refrigerator line were given out as follows:

Model	New Price	Old Price
NB 8	$224.75	$239.75
NC 8	249.75	259.75
NF 8	284.75	299.75
NH 8	379.75	399.75
NB 10	284.75	299.75
NF 10	334.75	349.75

(The NH 8 is the new two-door refrigerator.)

Here are the new and old prices on the G-E range line:

Model	New Price	Old Price
Stratoliner	$324.75	$334.75
Airliner	249.75	259.75
Leader	169.75	189.75
Studio	144.75	149.75

(Concluded on Page 32, Column 1)

Refrigerator Sales Total 287,166 In November for Nema

NEW YORK CITY—World sales of household electric refrigerators during November amounted to 287,166 units, according to the combined figures of the 11 manufacturers who report their sales to National Electrical Manufacturers Association.

This figure fell off somewhat from the postwar record of 314,078 reported for the previous month, October.

Total sales for the first 11 months of this year were 2,860,118, according to the Nema figures. This includes 2,678,351 domestic sales, 16,348 to Canada, and 165,419 to other foreign countries.

The 7-cu. ft. size continues to be the most popular model, the 11-month total being 1,579,035. Runner-up is the 9 and 10-cu. ft. category with 529,067 for the 11 months.

Kennally, Carmine Promoted by Philco

PHILADELPHIA — Thomas A. Kennally becomes vice president and assistant to the president, and James H. Carmine is now vice president in charge of distribution, for Philco Corp. as the result of promotions, announced by John Ballantyne, president.

Kennally has been vice president in charge of sales, and Carmine, vice president in charge of merchandising.

The moves were made to enable Philco to handle its increased volume of business, according to Ballantyne.

Kennally joined Philco in 1924, and Carmine is a nationally known figure in sales and merchandising fields and has been connected with Philco since 1923.

Florida Gray Market Fantastic--Mfr.; Coast Dealers Offered Plenty at Price

By George M. Hanning

DETROIT — The appliance "gray market" situation in Florida is fantastic, John A. Rishel, Jr., sales manager for the Parsons Co. here exclaimed after his visit to the Miami area in early December, just before the present tourist season began.

The quantities of Parsons Pureaire kitchens (small self-contained units that include refrigerator, sink, range, and cupboard space) that are getting into unauthorized hands is simply impossible, he declared.

"I know that we just are not shipping out enough merchandise to our distributors to permit it to get to Florida in carload lots, but that is what's happening," he added.

Confining his remarks to his own company, but noting that all appliance manufacturers are having similar difficulties, he pointed out that his Miami area distributor has 16

(Concluded on Page 29, Column 2)

LOS ANGELES—There would be no shortage in the local refrigerator supply, dealers report, if they could afford to get their hands on the large numbers being offered them.

Over the dealers' telephones come offers of shipments on every known brand. The catch, however, comes when prices are quoted. They are always close to normal retail and f.o.b. the shipping point. One dealer who bought found that his cost in each box by the time it was on his floor was $50 over regular retail.

Several dealers speculate that between 20 and 30 cars of refrigerators have come into the Los Angeles area via the long-distance telephone route. This has all happened within the last few months. Trucks seem to be the most popular mode of coast-to-coast transportation for the back-door articles.

The sources, dealers claim, are warehouses in and around New York.

(Concluded on Page 4, Column 5)

New Models of Household Refrigerators Now Being Introduced Feature Increased Storage Space

Four models comprise the new Frigidaire household refrigerator line introduced last week at the Chicago marts. All of these have been redesigned to provide more storage space without increasing over-all dimensions. Prices range from $194.75 to $299.75. At left is a close-up with the new full-width hydrator drawer which is mounted on roller bearings to assure easy sliding.

Appliance Sales Triple 1946 In Carolina Area

RALEIGH, N. C.—Sales of electric ranges, refrigerators, and water heaters in the territory served by the Carolina Light & Power Co. during the first nine months of 1947 more than trebled the sales total for the same period in 1946, the utility has announced.

Comparative sales figures on these appliances are:

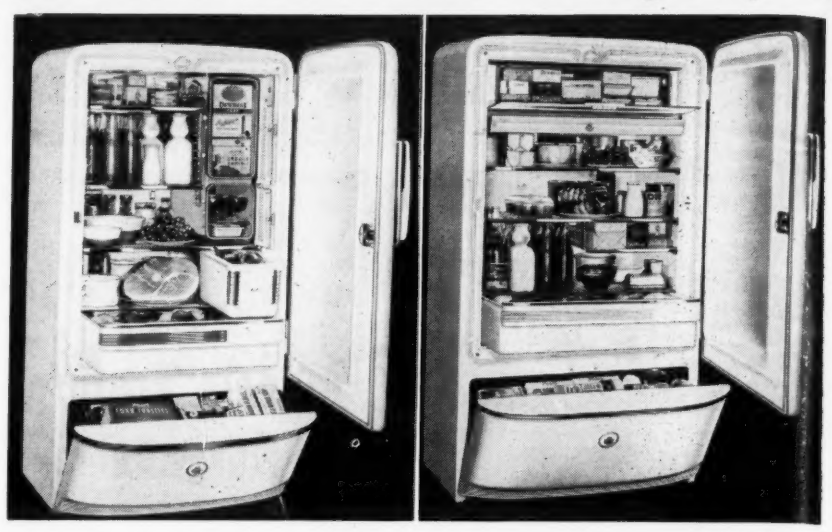
Appliance	1947	1946
Refrigerators	7,725	2,384
Ranges	4,967	1,332
Water Heaters	4,123	849

Carolina Light & Power Co. serves the cities of Asheville, Goldsboro, and Raleigh, N. C. and Florence and Sumter, S. C.

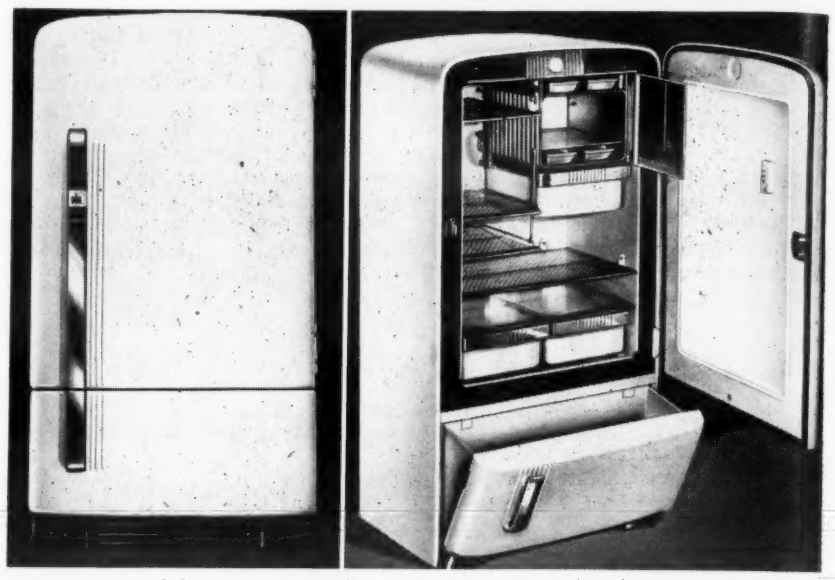
New Payroll Data May Aid In Figuring Markets

WASHINGTON, D. C. — Expected to be of use to businessmen in determining market potentials, sales quotas, and effectiveness of sales and advertising programs, a series of bulletins giving county by county figures on employment, payrolls, and business population has been prepared by the U. S. Department of Commerce.

Separate bulletins have been prepared for each state and the territories of Alaska and Hawaii and are based on statistics covering the first quarter of 1946. Source of the data is the old age and survivors insurance.



Increased storage space is also claimed for the new Norge line of seven models. The NSD-848 at left is a "super deluxe" 8-cu. ft. model, while the model at right is the new TF-1048, 10-ft. model with an across-the-top freezer section.



ABOVE is one of the three 8-cu. ft. models now being manufactured by International Harvester and soon to be shipped to dealers. Later in the year a 10-ft. model will be added.

RIGHT: Here is the NB-10 10-ft. refrigerator which General Electric Co. has just introduced primarily for farm use and households requiring large storage space. Recommended list price is now $284.75.

A Brief for FREE COMPETITIVE BUSINESS

Four more men, four more individualists. Four more "teammates", too, at Tecumseh Products Company.

They came together of their own free will to accomplish their own individual objectives . . . to earn more money . . . win a bigger job . . . find a better future. They're here to work, they're here to win because winning by working is a deep and vital part of them. They're made of the stuff that has made their country great. They're natural winners.

Max Smith, cost analyst . . . Marion French, precision bore operator . . . Clarence Bumpus, precision bore operator . . . Bert Klappich, inspector . . .

Four individual winners who have helped put their team on top. For it was through the effort, the spirit, and the loyalty of such men as these that Tecumseh Products Company became . . . the world's largest independent producer of compressors and condensing units for the refrigeration industry.

Chieftain

TECUMSEH PRODUCTS COMPANY

Tecumseh, Michigan

You Can Relax

WITH TUTHILL LUBRICATION PUMPS ON THE JOB

Tuthill Model L small pumps provide a practical answer to pressure lubrication problems. These internal-gear rotary pumps are mechanically sealed for quiet, leakfree, dependable service with minimum power consumption. Capacities up to 3 g.p.m. in wide pressure ranges. Write for Model L bulletin.

Other types including stripped models and automatic reversing pumps to meet your requirements.

TUTHILL PUMP COMPANY
939 East 95th Street
Chicago 19, Illinois

"We have reasons to believe the 'best dealer in town'—the Norge Dealer!—will enjoy a glow of satisfaction when he inspects this new line. We have done our best to make it the

Greatest Line in Norge History

and to deliver it in greatly increased quantities!"

HOWARD E. BLOOD, *president.*

"We are getting a real kick out of announcing this new line to our retailer friends and, as Howard says, it's the greatest line in Norge history!"

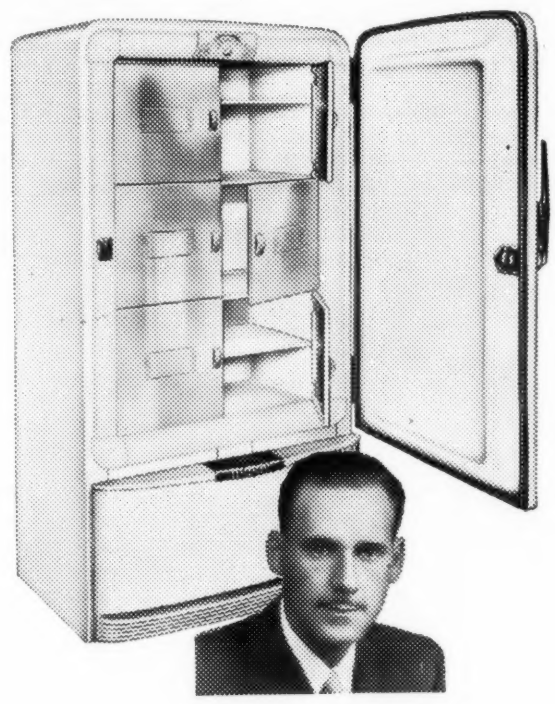
M. GLENN (Uncle Mike) O'HARRA,
vice-president and director of sales.

General Sales Manager,
H. L. (Red) CLARY, says:

"That's right, Glenn! This whole new Norge line is hotter'n a firecracker! Full of features that prospects will go for—but fast!"

"Independent research has proven that Norge washers deserve their increasing popularity—I predict that the '48 line will be the most popular we have ever had."

PAUL BERNER,
sales manager, laundry equipment.

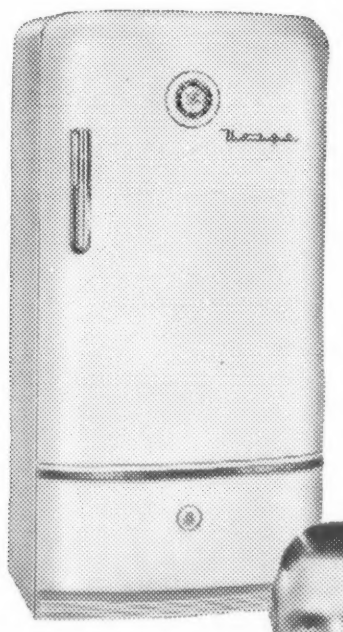


"Norge freezers, and the entire Norge line of refrigeration specialties will enable Norge retailers to cash in on a vast profit opportunity. Our future never looked brighter."

E. N. GUILD,
sales manager, refrigeration specialties.

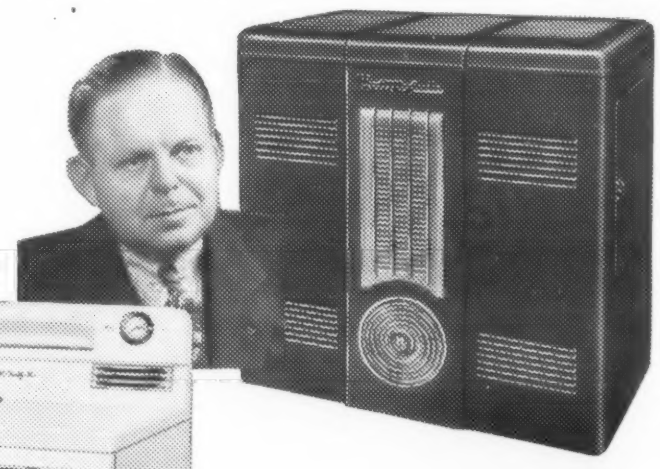
"You know what we did in '47—our electric ranges and water heaters were the talk of the industry—and '48 will be even greater."

H J. (Harry) HOLBROOK,
sales manager for electric ranges and electric water heaters.



"Just take a good look at the new 'Concentrator' burner on these better gas ranges . . . and take another look at the smart new home heaters . . . any one could sell 'em . . . and there'll be more of 'em to sell!"

W. M. (Walt) DAVIS,
sales manager for gas ranges and home heaters.



"The new refrigerator line includes 6's, 8's and 10's—with more food storage space in all eight zones—and featuring the new Norge 'Night-Watch' Self-D-Froster. Here is a line with a terrific sales wallop."

W. S. (Bing) LAW,
refrigerator sales manager

Products of
BORG-WARNER

Norge products, distributed worldwide, are typical examples of the values made possible by the American system of free enterprise.

SEE NORGE BEFORE YOU BUY

NORGE DIVISION, BORG-WARNER CORP., 670 E. WOODBRIDGE ST., DETROIT 26, MICH
In Canada: Addison Industries, Ltd., Toronto, Ont

New Leonard Line--

(Concluded from Page 1, Column 3)

erated storage bin or a machine compartment door, he said. In the new Leonards, all of the interior is now refrigerated, and doors are consequently full cabinet length.

One of the results of this full-length refrigeration is a new refrigeration development—a refrigerated fruit freshener. This is a tilt-out compartment inside the cabinet at the bottom, providing new refrigerated storage space for fresh fruits or any bulky food or beverages requiring refrigeration.

A summary of the outstanding features of these 1948 Leonards follows:

LH-48—suggested retail delivered price, $359.95. Capacity of 8.5 cu. ft. within the shelf area—plus the refrigerated Fruit Freshener. Refrigerated from top to base. Full-length door opens on a full-length storage compartment. Public demand for frozen food storage space is met with a big, new all-across-the-top compartment for 50 lbs. of packaged frozen foods and ice cubes.

Drop-down door of the freezer doubles as a rearranging shelf. The four ice trays are stain-resistant, anodic finished aluminum, with automatic, built-in cube and tray release levers.

Glass-enclosed Hi-Humid Freshener, cooled by circulation of refrigerant through coils on compartment back, provides protection for naturally moist foods and its glass doors are self-closing. This super-moist cold compartment is claimed to offer approximately five times the volume of "crispers" commonly used.

Shelves are thick, easy-to-clean ribbed glass, trimmed and protected along the front edge with bright aluminum molding. A white plastic defrosting receptacle fits below the frozen food chest.

LF-48—suggested retail delivered price, $309.95. Capacity 8.5 cu. ft. within the shelf area, plus the refrigerated Fruit Freshener, full-length door, full-length storage compartment. Same 50-lb. capacity frozen food chest as in the LH-48. Twin sliding, glass-covered crispers providing moist-cold storage space for 20 quarts of vegetables and salad greens. Adjustable shelf permits easy rearrangement of space for tall bottles or bulky foods.

LC-48—suggested retail delivered price, $279.95. Capacity 8.5 cu. ft. within the shelf area, plus the refrigerated Fruit Freshener. Full-length door and full-length storage compartment. Frozen food chest of this model is side mounted, with space for 40 lbs. of packaged frozen foods and ice cubes.

It has three freezing shelves and an aluminum meat-keeper below the compartment. The model is also featured by the adjustable shelf and has a sliding, glass-covered crisper for moist-cold storage of 12 quarts of vegetables and salad greens.

LD-48—suggested retail delivered price of $239.95. Capacity is 7 cu. ft. The side mounted zero freezer will hold 30 lbs. of packaged frozen foods and ice cubes and has two freezing shelves. Its aluminum meat tray also may serve as a defrosting receptacle.

Leonard's lowest-price model for 1948, the LS-48, has a suggested retail delivered price of $214.95. Capacity is 7 cu. ft. Center-mounted zero freezer has two freezing shelves and provides room for 25 lbs. of packaged frozen foods and ice cubes.

Norge's 7 Models--

(Concluded from Page 1, Column 2)

and the elimination of the flue in the rear of the box.

The line comprises two 10-ft. models, four 8-ft. boxes, and the 6-ft. apartment model. The 8-ft. refrigerators, said O'Harra, provides 33⅓% more food storage space than did the prewar 6-ft. model which occupied the same floor space. Better and greater bottle storage capacity and increased frozen food storage are also provided, he said.

All refrigerators in the new line, except for one 10-ft. model, have the freezer compartments mounted at one side of the interior.

The Norge "Night-Watch" super deluxe 8 cu. ft. box, model NSD-848, has a net storage space of 8.17 cu. ft. and measures 29¾ in. wide, 59⅞ in. high, and 26$^{53}/_{64}$ in. over-all depth.

There is a separate inner door on the side frozen food compartment.

Across the bottom of the interior is a full-width "hydrovoir" refrigerated vegetable drawer, while the bottom section of the cabinet features a "tiltabin" compartment for dry storage with a capacity of 1.28 cu. ft.

Total shelf area is 13.83 sq. ft., two of the shelves being adjustable in height. The lower shelf just above the "hydrovoir" is of ribbed-glass to retain moist air in the vegetable drawer and also eliminate reflections.

The standard 8-ft. refrigerator, model S-848, has the same exterior dimensions as the NSD-848, but lacks the automatic defrost, the special cold dessert compartment, and the deep meat "coldpack." The "hydrovoir" crisper is also half width in this model.

The "tiltabin" dry storage compartment at the bottom is retained in this model, and the size freezer compartment is rated at 28-lb. frozen food capacity.

The one model in the new line with the freezer compartment across the top is the super deluxe 10 ft. refrigerator, model TF-1048. This measures 33¾ in. wide, 63 in. high, and 26 in. deep over-all. It has a frozen food capacity of 37 lbs. The other 10-ft. model, NSD-1048, with the freezer compartment along the side holds 40 lbs. of frozen food.

Located at the very top of the interior, the freezer compartment in the TF-1048 is fitted with a door, and directly beneath is a shallow, slide-out, chill drawer.

"Hydrovoir" vegetable crisper in both 10-ft. models is of double-width size. Model NSD-1048 is equipped with the "night-watch" defroster, but this feature is not included in the TF-1048.

NEMA Sales for November & First 11 Mos.

Complete Refrigerators Only

(Lacquer and Porcelain Exterior Cabinets) (Advertised Sizes)

NOVEMBER

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	Less than 4 cu. ft.	146	....	....	146
2.	4 cu. ft.	378	....	82	460
3.	5 cu. ft.	....	....	....	....
4.	6 cu. ft.	35,174	....	2,127	37,301
5.	7 cu. ft.	117,229	780	7,809	125,818
6.	8 cu. ft.	48,228	67	1,613	49,908
7.	9 and 10 cu. ft.	65,470	185	2,431	68,086
8.	11 and 12 cu. ft.	5,446	....	....	5,446
9.	13 cu. ft. and up	1	....	....	1
10.	**Total**	**272,072**	**1,032**	**14,062**	**287,166**

FIRST ELEVEN MONTHS

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	Less than 4 cu. ft.	2,548	....	12	2,560
2.	4 cu. ft.	16,492	1	4,716	21,209
3.	5 cu. ft.	....	....	....	....
4.	6 cu. ft.	300,502	854	18,829	320,185
5.	7 cu. ft.	1,464,565	12,013	102,457	1,579,035
6.	8 cu. ft.	380,019	957	15,087	396,063
7.	9 and 10 cu. ft.	502,226	2,523	24,318	529,067
8.	11 and 12 cu. ft.	8,066	....	....	8,066
9.	13 cu. ft. and up	3,933	....	....	3,933
10.	**Total**	**2,678,351**	**16,348**	**165,419**	**2,860,118**

Participating companies: Admiral Corp.; Crosley Div., AVCO Mfg. Corp.; The Coolerator Co.; Hotpoint, Inc.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Nash-Kelvinator Corp.; Norge Div., Borg-Warner Corp.; Seeger Refrigerator Co.; Westinghouse Electric Corp.

Plenty at a Price--

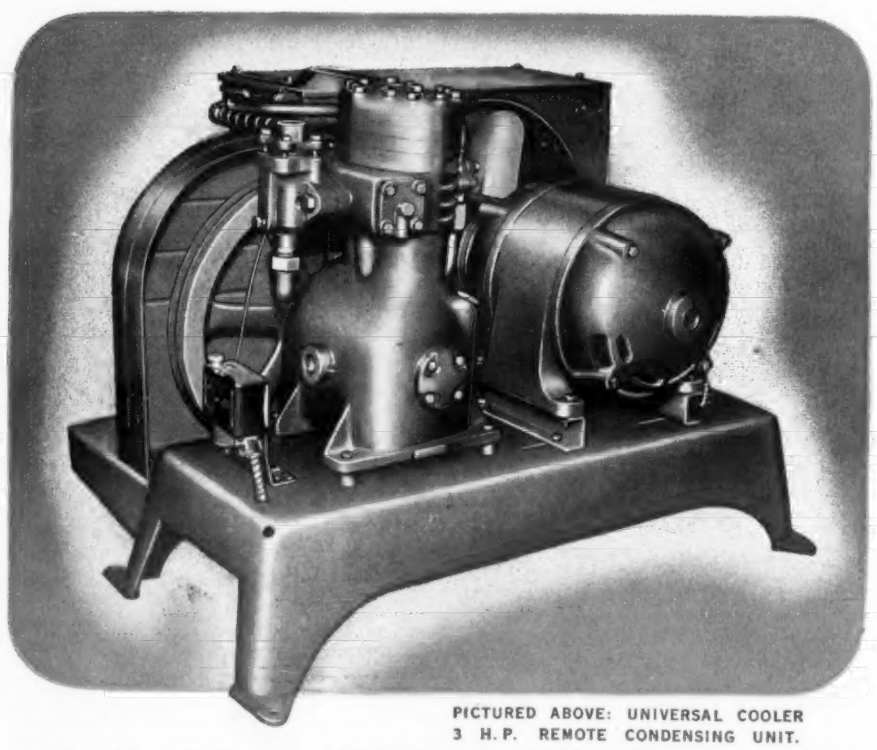
(Concluded from Page 1, Column 4)

One dealer here visited some of these places last month and said the supply was there, but he couldn't pay the price. None of the local appliance people can pin down the actual connections these telephone callers have with factories.

The speculators are finding a few sizable customers here. What might prove a profitable thing for a dealer close to New York is so expensive out here that only the big promoters give a hesitant "yes" to the phone caller. Unfranchised stores say "yes" most often.

Gough Industries, Inc., Philco distributor, reported it had conducted an investigation of the back-door operations. The company spent time and money before the sleuthing was dropped. It came up with nothing.

IT'S SERVICEABLE!



PICTURED ABOVE: UNIVERSAL COOLER 3 H.P. REMOTE CONDENSING UNIT.

1/4 TO 15 H. P. REMOTE CONDENSING UNITS FOR COMMERCIAL APPLICATIONS

The unit illustrated is designed especially for heavy duty service in commercial refrigeration applications. Precision-built parts are carefully assembled, the unit is dehydrated, thoroughly run in and tested under actual operating conditions. Tell us about your refrigeration problems—let our sales engineers show you how Universal Cooler can solve them.

HERE'S WHY:

1 160 Universal Cooler genuine parts jobbers are strategically located throughout the country.

2 Wherever you are, you're within one day delivery of genuine Universal Cooler replacement parts.

3 Factory Rebuilt Replacement Compressors are available at U. C. D. jobbers for over-the-counter exchange—no delays, no long shutdown of units.

4 Universal Cooler units are made of quality materials and fit to close tolerances—nothing but minimum routine maintenance is needed for years.

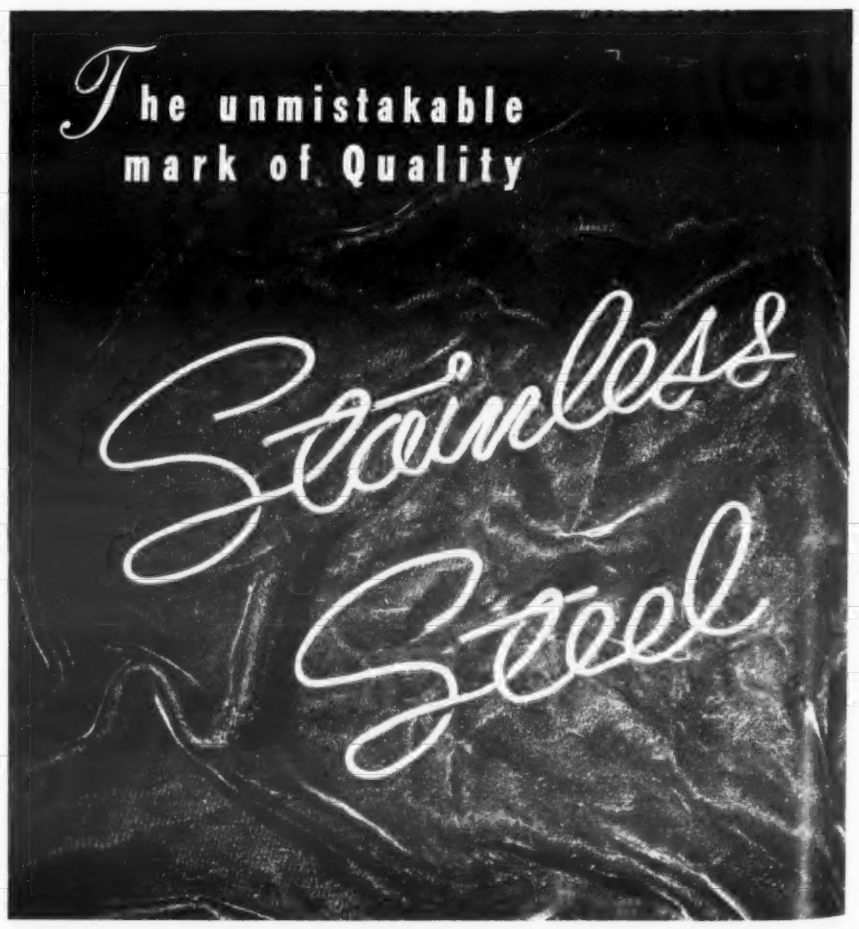
5 A fully-equipped factory service department stands ready to help your parts jobbers and your servicemen with any special problem.

UNIVERSAL COOLER

1922–1948 26 YEARS OF PROGRESS

DIVISION INTERNATIONAL DETROLA CORPORATION

MARION, OHIO • BRANTFORD, ONTARIO



The instant Mrs. Housewife spots stainless steel shelves in your new model domestic refrigerator, she knows it means extra quality. For "Stainless" represents quality that she can see and understand and your quality story takes on a real meaning for her.

Here at United we fabricate all types of materials including stainless steel. Leading manufacturers of domestic refrigerators have come to depend on United for their welded wire needs, knowing full well that regardless of material or finish, they can get it here. If it's welded wire or wire and steel, check with United first!

UNITED STEEL AND WIRE CO.
BATTLE CREEK, MICHIGAN

STEP IN THE RIGHT DIRECTION . . .

Step right in—we'll have a surprise in store for you at the convention!

Our staff will be on hand to show you several radically new Alco controls as well as our standard products.

We're all looking forward to seeing you again and discussing your refrigeration problems with you.

Remember—it's always a step in the right direction when you call on Alco!

ALCO VALVE CO.

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.

Bendix Plans $1,500,000 Advertising For 6 Months

SOUTH BEND, Ind.—Bendix Home Appliances, Inc., will spend $500,000 in the first six months of 1948 in national magazine advertising, plus more than $1,000,000 cooperatively with its distributors and dealers for newspaper space, outdoor boards, and spot radio, according to Stewart Roberts, director of advertising and sales promotion.

Added to the list of media for a series of four-color advertisements is *This Week.* In January the company is inaugurating, with a full page in *The Saturday Evening Post,* national advertising on the Bendix automatic clothes dryer, which has been in production since last February.

The dryer is being announced through joint signature newspaper advertisements in major cities.

C. R. Turner, Jr., To Manage Appliance Dept. In Waco Store

WACO, Tex.—C. R. Turner, Jr., has been appointed manager of the new radio and appliance department of the R. T. Dennis & Co., department store here. Features of the new department include "live display" of all major appliances, a service department, and complete operating model kitchens.

Wills Dealership In Cynthiana, Kentucky Purchased by Couple

CYNTHIANA, Ky. — Wills Appliance Store here, formerly owned and operated by Jack Wills, has been sold to Mr. & Mrs. Marshall Foley. The new owner will carry on the electrical appliance business as well as his plumbing store.

'Telautograph' In Store's Appliance Dept. Is Connected With Shop To Expedite Handling of Customer Service Calls

ATLANTA—"Sell your customers on service as well as merchandise the moment they come into the department," is a merchandising maxim which is strongly emphasized in the beautiful new major appliance department of Rich's department store here.

Roy Kise, appliance buyer, makes sure that every customer knows that Rich's maintains the warranties on, and completely services all major appliances sold in the store—by inviting each to visit the "telautograph appliance service desk" which appears prominently in the center of the department.

The appliance service desk, which is staffed by one full-time girl whose sole responsibility is receiving service calls, and making them up for Rich's big appliance service shop, is located amid all of the appliance departments.

Equipment includes a trunk-line telephone, a pneumatic tube connecting with the rest of the store, and a "telautograph" electric device which reproduces notes written on a similar machine in the Rich appliance shop in the store warehouse.

Thus, if any customer wishes any appliance repairs of any type all she need do is merely step up to the desk, give her name, address, the make of appliance and its type, and see it instantaneously dispatched to the warehouse where the call will be placed on the roster for a crew of outside mechanics.

The same telautograph system is utilized for requisitioning merchandise, sending directions to the shop, etc., according to Kise.

Busy place in Rich's appliance department is the store's service desk where customers can drop in to witness their service calls being handled by a fast-moving communications system.

"Our idea is that once a customer sees these service calls being relayed in this way, she is bound to talk about it to her friends," Kise stated. "Actually, the idea has already accelerated the number of service calls we handle. These, incidentally, come in at the rate of as many as 12 per hour."

Many other novel merchandising ideas are included in the new 6,000 sq. ft. appliance department, which is the major part of Rich's "Store for Home." For one thing, every appliance on the floor whether gas or electrically operated is connected, actually operating, and stocked with either actual food or imitation wax produce, desserts, pastries, meats, etc.

"All of the displays work out co-operatively," Kise said. "For example, we keep all of the food utilized in our demonstration kitchen in our home freezers. This helps to sell home freezers, of course, as well as serving a practical purpose."

Cooking school demonstrations are held in a "home service center" which seats 50. Borrowing a leaf from street car construction, Kise arranged for seats which, by pushing the back from one side to the other can be made to face either way. One full-sized "stage" is thus provided at either end, to demonstrate refrigeration, model laundries, cooking, etc.

A "test kitchen" is also located here, in which recipes are tested and the day's "food curriculum" worked out by a staff of six women demonstrators.

In the "kitchen planning center" (one of the most impressive ever constructed) are four "model kitchens" running all the way from $300 to $3,000. One is an all-wood custom job, which features Rich's private brand of major appliances, another a combined General Electric model kitchen and laundry, and two featuring Frigidaire appliances, and all-metal light-weight cabinets, sinks, etc.

There is also a Bendix model laundry which actually does a customer's wash if she desires. All of the four model kitchens, which have a special staff of three men assigned to them, benefit from the "kitchen planning bureau" a special shop which consolidates linoleum, sinks, appliances, lighting, etc., at one convenient point.

Rich's kitchen engineers will survey a home, estimate cost, furnish a blueprint, and make the entire installation.

With such facilities as these it is not surprising that the store sold two complete kitchens per day for the first month's operation.

In the department, also, is an air conditioning and home heating division, with a separate department and engineering staff to install central 5-ton package units, down to half-ton window air conditioning.

Every type of appliance is entirely "segregated" by means of high yellow partitions, along the base of which are elevated black linoleum platforms on which appliances are set.

Providing sufficient outlets and supply lines for every sink, range, refrigerator, etc., was an electrical and gas-fitting miracle, according to Kise.

The result, however, is that there are absolutely no "dead" appliances on the floor. Along with domestic refrigerators, the store goes all the way up to 22-ft. reach-in commercial-type boxes, and "estate size" ranges, home freezers, etc.

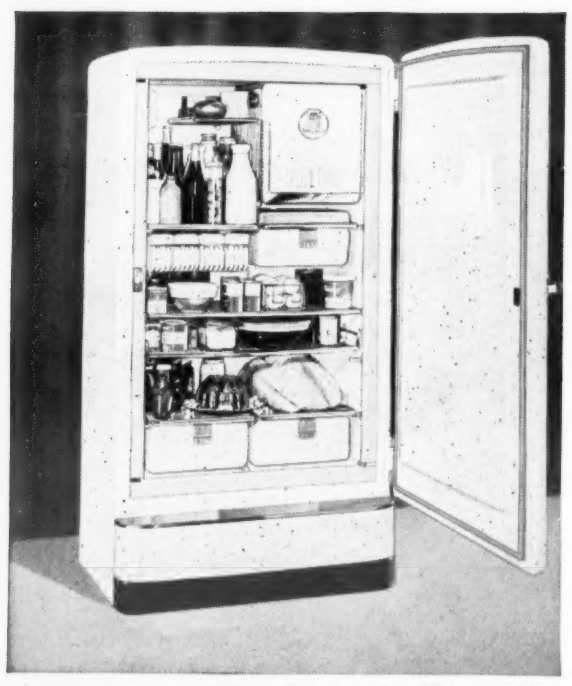
The Georgia department store has a sales staff of 12, most of them with previous experience with various utility companies. Commensurate with their experience, the store guarantees each salesman $250 a month, with a 5% commission on all merchandise.

No outside selling has been done as yet, inasmuch as "live" demonstrations in the store window, plenty of newspaper advertising, and leads from the service department have been ample to date. Two cooking school classes will be scheduled every day, according to Kise, in addition to all-out promotions on one type of appliance at a time.

Wall WIRE PRODUCTS COMPANY
PLYMOUTH • MICHIGAN
Makers of
REFRIGERATOR SHELVES • STAMPINGS
FORMED AND WELDED PRODUCTS

An increasing portion of our inquiries calls for Stainless Steel Refrigerator Shelves.

Keeps 'em coming ALL YEAR 'ROUND

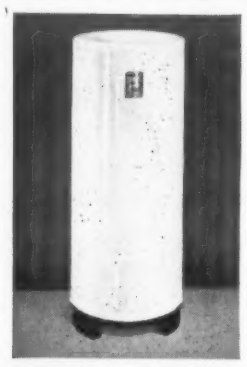


HOTPOINT'S COMPLETE MATCHED LINE OF 11 MAJOR APPLIANCES MEANS YOU CAN SELL MORE—MAKE MORE—THE YEAR 'ROUND

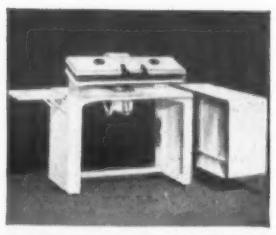
BLOW HOT OR COLD—there's a "seasonal" market *every month of the year* for one or more of Hotpoint's 11 major appliances. A rising mercury, for example, means a rising market for refrigerators and freezers. But raw, blizzardy weather makes garbage an extra nuisance, steps up demand for the Hotpoint Disposall*. Pleasantly cool weather, on the other hand, means larger meals, more dishes. That means business for the famous Hotpoint Dishwasher.

- The more it rains, the more orders will pour in for Hotpoint Clothes Washers, Dryers and Ironers . . . every one especially designed, among many other advantages, to simplity the clothes-drying problem.
- Then there are those greatest of all year 'round performers — the Hotpoint Electric Range and the Hotpoint Water Heater. Completely unrelated in runction, they are alike in month-in, month-out demand.
- Best of all, the sale of any one of these Hotpoint products can lead easily and naturally to full-line sales. That's because Hotpoint has long promoted the complete all-electric kitchen and now turns that dream into reality with a beautifully-matched ensemble of all major appliances. Sold as a "package" —or unit-by-unit—you'll find it all adds up to $2,000 or more per customer. That's why Hotpoint's is the "Franchise with a Future"... the sure way to BIGGER VOLUME the year 'round!

*Reg. U. S. Pat. Off.



Space-saving Hotpoint Refrigerator gives up to 50% more food storage in the same kitchen area, plus many other new features.



Revolutionary Hotpoint Hot Water Heater has pressurized direct contact Calrod* units for unmatched speed.

Hottest news in ironing is Hotpoint's new Flatplate Ironer. Provides 300 sq. in. of ironing surface. A natural traffic-builder.

Hotpoint's 3-Point Program gives you (1) the benefits of a $20,000,000 expansion program, (2) a completely matched group of all major appliances, and (3) the greatest advertising campaign in Hotpoint history—assuring you a steady flow of America's finest appliances, adequately promoted in leading national magazines to bring year 'round volume and profit.

Greatest Advertising Campaign in Hotpoint History

Hotpoint
Hotpoint Inc. A General Electric Affiliate
5632 West Taylor Street, Chicago 44, Illinois

PROTECT YOUR REFRIGERATOR and FREEZER PROFITS

Use the STANDARD TRADE-IN MANUAL for correct identifications and sound valuations

ARRANGED and INDEXED for QUICK REFERENCE

ALL APPRAISALS HAVE BEEN REVISED TO REFLECT CURRENT MARKET FACTORS.

BE PREPARED FOR YOUR 1948 REPLACEMENT SALES

ORDER NOW!

- More than 1150 photographs
- More than 3300 detailed listings
- Authentic trade-in valuations
- Operating information on Merchandising, Reconditioning

The internationally accepted trade-in authority on refrigerators! The standard reference source throughout the United States and 27 foreign countries.

Bookbound in washable green cloth—Pocket Size—4¾" x 6¼", 320 Pages. Price $4

STANDARD REFRIGERATOR TRADE-IN MANUAL CO., 503 W. 43rd St., N. Y. 18
Please send me at once ..... copies of 1948 Manual at $6.00* each.
(Outside U.S.A. $7.50.)
*N. Y. C. orders, please add 2% N. Y. C. Sales Tax ACRN
NAME .....
COMPANY .....
STREET ADDRESS .....
CITY ..... ZONE ..... STATE .....
Check or Money Order ..... Bill us per our Order No. .....
(We pay postage on prepaid orders. No. C.O.D.'s please.)

Does your product suffer from

"Fallen Starches"?

(Reading Time—55 seconds)

Space costs of many leading magazines are going up . . . up! Yet their circulation guarantees remain the same. Oh . . . how that will zoom *their* ad reader costs! Ad men from New York to Los Angeles are taking a good, hard look at the Starch ad readers per dollar now delivered by the premium fare vehicles. The more they look, the more Liberty's exclusive "plus package" is proving to be the *most profitable magazine buy* for 1948. Here's why:

STARCH AD READERS PER DOLLAR*

	MEN		WOMEN	
LIBERTY	Black & White	158	Black & White	165
	Four Color	146	Four Color	125
COLLIER'S	Black & White	116	Black & White	124
	Four Color	113	Four Color	115
LIFE	Black & White	78	Black & White	104
	Four Color	83	Four Color	109
POST	Black & White	98	Black & White	95
	Four Color	93	Four Color	98

Investigate **LIBERTY'S EXCLUSIVE "PLUS PACKAGE".** It's producing results for many astute, leading advertisers:

1. Greater ad visibility because of 50% editorial to 50% advertising policy.

2. Greater ad readership in *both* four color and black and white as proved by Starch.

3. Climbing, steadily climbing circulation. Liberty is the *only* general magazine among the 3 top weeklies and 4 top monthlies to gain circulation during the 1947 periods audited by the ABC (June 30th publisher's statements). Now selling over 1,600,000 copies.

4. An active buying readership of over 7,500,000, the majority under 45 years, who are in the *acquiring* periods of their lives.

5. Low base rates give *absolutely* highest circulation per advertising dollar.

Yes, there's Activity in Liberty!

LIBERTY MAGAZINE, INC.
Franklin S. Forsberg, Publisher
Advertising Offices . . . **New York, Chicago, Detroit, Los Angeles**

*Starch Consumer Magazine Report (Seen-Associated Scores) Circulation guarantees & rates S. R. D. S. Oct. 15, 1947

Pittsburgh High School Students Learn Use of Appliances In Fully Equipped Kitchen-Laundry

PITTSBURGH — To teach high school students to use modern household appliances in an atmosphere closely resembling that of a modern home is one the of aims of a joint industry-education sponsored project here that educators hope will bring fundamental changes in the teaching of home economics in public schools. It will incidentally help to "presell" a group of prospects for the most up-to-date appliances, and therein lies an opportunity for electrical groups in other cities.

In this project, girls are taught right in the school how to cook on the most up-to-date electric and gas ranges, how to prepare foods for the home freezer, how to use automatic dishwashers, garbage disposals, automatic laundries, driers, and ironers, and how to arrange their refrigerators and kitchen cabinets for the most efficient storage.

Called the Langley homemaking project from its location in Langley high school here, it attempts to reproduce for the students the actual environment that they are likely to meet in their own homes.

To accomplish this, the old clinical laboratory type home economics classroom was converted into an "efficiency apartment."

False exterior walls were constructed inside the regular exterior walls of the building, according to M. M. Steen, chief of the Pittsburgh Board of Public Education's division of plant operation and maintenance.

Many of the students develop self-confidence and proficiency by conducting the demonstrations themselves.

The ceiling was lowered to a residential height of 8 or 9 ft. Windows and doors of residential size were installed, he said.

Within this structure, the area was divided into two rooms. One was a living-dining room and the other became the kitchen-laundry. In the latter were set up five complete kitchen units and a laundry unit.

All interior decorations were done just as they would be in a normal home. All details, such as fireplaces, closets, book shelves, lighting fixtures, heating and ventilating, plumbing equipment, furniture, floor covering, and decoration were made entirely consistent with good modern domestic architecture, Steen stated.

The kitchen units are based on the step saving, three work center idea of modern kitchen planning. They are designed around an electric refrigerator, sink, and gas or electric range. Each unit is completely equipped, from aluminum cooking utensils to flat silver and linens.

Work tops and convenience outlets are adequate and well-placed. Cabinets are designed to give maximum convenience.

It is in this atmosphere that students learn cooking, meal planning, and serving.

This department is not used solely as a classroom for students, it was pointed out. It also acts as a homemaking center for the community. The central area between the work kitchens can be cleared and folding chairs are available to turn it into a small auditorium.

In addition to attending demonstrations, adult groups participate by actually doing things themselves.

The laundry center, designed to promote the idea of combining the kitchen and laundry as one unit on the same level, contains an automatic washer, drier, ironer, storage cabinets, and an electric water heater.

Students receive instruction on the use of all of these.

How the Langley project got its start was explained by H. H. Rothrock, secretary and business manager of the Board of Public Education.

"Immediately after the war the manufacturers of residential homemaking equipment became interested in helping to draw plans for a modern home and family living unit to be used as a research center both from an educational point of view and from the angle of experimentation with equipment in a public school situation.

"The plan offered an excellent opportunity to install the most modern household equipment in an all-purpose homemaking center at a nominal cost. Furthermore, an annual replacement proposal of certain important equipment would serve to keep the center up-to-the-minute for several years to come.

"This proposal was accepted by the Board of Public Education and the plan has now been realized in the so-called Langley project.

"No doubt the influence of this experiment will be felt on the future program of home economics in Pittsburgh. It is hoped that it will set a pattern for other much needed development in many of our schools and I think we should be alert to extend it when we are convinced of its merit."

T. O. McQuiston, director of residential promotion for the Duquesne Light Co., elaborated on the annual replacement proposal mentioned by Rothrock.

"A replacement plan has been placed in effect," he said, "which will call for the replacement of all electrical equipment once a year or at such times as new models are introduced by manufacturers.

"This will completely eliminate the obsolescence problem that has been so serious in home economics departments. In other words, all equipment in this classroom should never be more than one year old and should be within the normal guarantee period."

McQuiston added that "another feature of this operation is the fact that all teachers are receiving expert instruction from our company and those manufacturers who have participated in the program. Included are pamphlets and other information that can be used for classroom work."

Explaining the utility's interest in the program, he stated, "With electricity playing such an important part in living today, it seemed logical that education and industry have much in common. In teaching homemaking, schools recognize the need for instruction on the care and use of mechanical equipment.

"The electrical industry is likewise interested in this instruction and therefore should assume the responsibility for seeing that information pertaining to electrical products is available for educational purposes.

"With this thought in mind it seemed practical that education and industry plan and equip one complete homemaking room which they could use for experimental purposes to determine whether such an arrangement would be satisfactory for future homemaking rooms."

A Langley high school girl puts to good use some of the methods she has learned in the art of preparing foods for storage in a home freezer.

REMCO HEAVY-DUTY "CROSS-FLO" DRIER-FILTERS AND FILTERS

UNIQUE "CROSS-FLO" DESIGN eliminates roiling, dusting and packing of drying agent, which eliminates pressure drop, clogging, poor refrigerant control performance and expensive call backs—permits installation in liquid line, suction line or between refrigerant control and evaporator.

Ask Your Wholesaler Or Write

No. 1

REMCO, INC., ZELIENOPLE, PA.

Premiere showing of

Miracula BY GEMCO

THE HEAT PUMP THAT...

Has aroused interest from coast to coast ☆ Was featured in an article in Better Homes & Gardens ☆ Promises to revolutionize home heating and air conditioning ☆ Offers a great new field for distributors.

ALSO A DISPLAY OF THE

1948 GEMCO AIR CONDITIONER

With 2-stage compression—Aluminum compressor and motor housing—Non-inflammable Fiberglas insulation—Vibration-free operation—Compressor motor cooled by refrigerant gas—and many other exclusive features.

See them at the

5TH ALL-INDUSTRY REFRIGERATION AND AIR CONDITIONING EXPOSITION

Public Auditorium
Cleveland, Jan. 26 to 29
(Booths 315-317-319)

and at the

8TH INTERNATIONAL HEATING AND VENTILATING EXPOSITION

Grand Central Palace
New York, Feb. 2 to 6
(Booths 263-4-6)

Gemco AIR CONDITIONING

General Engineering and Manufacturing Co.
4417 OLEATHA, ST. LOUIS 16, MO.
Makers of Gemco Precision Shapers and Machine Tools, Gemco Oil Field Equipment, etc.

Signs Up with Harvester

A. J. Peterson, I-H general line sales manager (left), and Ben Marcus of General Utilities Distributors, Inc., new Chicago distributor.

* * *

General Utilities Named I-H Distributor In Chicago

CHICAGO—General Utilities Distributors has been appointed wholesale distributor of International Harvester household refrigerators and freezers for the Chicago area.

Included in the Chicago territory are Lake, DuPage, and Cook counties in Illinois and Porter and Lake counties in Indiana.

Although International Harvester has built up a mammoth distribution setup served through company-owned branches throughout the country, it is relying on established wholesale major appliance distributors for representation in certain large metropolitan areas, company officials declare. Distributors have been named in New York City, Boston, and Detroit.

W.L. Ledbetter Represents Remco In Tex., Okla., La.

DALLAS, Tex.—W. Leo Ledbetter, long connected with Fedders in the Dallas territory, has been named representative for Remco, Inc. in Texas, Oklahoma, and Louisiana, K. M. Newcum, Remco president, has announced.

W. L. Ledbetter

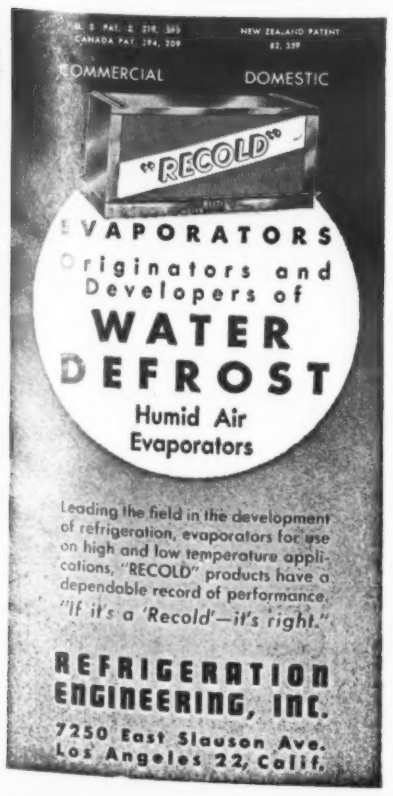
Ledbetter will make his headquarters at 2303 Roanoke Ave. here.

In 1935, Ledbetter joined the Dallas branch of Fedders as assistant manager. He has been the Fedders representative in the Dallas territory since 1941.

Firm Incorporates To Make, Sell Refrigeration Equipment In Ark.

RUSSELLVILLE, Ark. — Articles of incorporation have been filed by the Lingle Refrigerator Co., Inc., here to manufacture and sell refrigeration equipment.

The following were listed as incorporators: Roy M. Lingle of Kansas City; Martin E. Lingle of Independence, Mo.; Glenn D. Keith of Peculiar, Mo.; C. M. Lingle of Kansas City; David A. Lingle of Russellville, agent.


COMMERCIAL
DOMESTIC
"RECOLD"
EVAPORATORS
Originators and Developers of
WATER DEFROST
Humid Air Evaporators
Leading the field in the development of refrigeration, evaporators for use on high and low temperature applications, "RECOLD" products have a dependable record of performance.
"If it's a 'Recold'—it's right."
REFRIGERATION ENGINEERING, INC.
7250 East Slauson Ave.
Los Angeles 22, Calif.

Kaiser-Fleetwings Rents Office, Display Space In Merchandise Mart

CHICAGO—The Kaiser-Fleetwings Sales Corp., handling the Kaiser-Fleetwings automatic dishwasher, has leased 800 sq. ft. of office and display space on the eleventh floor of the Merchandise Mart here, according to Wallace O. Ollman, general manager of the Mart.

The Kaiser-Fleetwings office will serve the middle western region and will act as headquarters for district managers covering Illinois, Indiana, Iowa, Ohio, Michigan, Wisconsin, Kentucky, and Minnesota.

Le Roy G. Ehret will direct the regional office while Patricia Lawn will have charge of the Chicago office. Ehret was formerly sales manager of the Walter E. Selck Co. He has had 14 years experience in appliances and was with the War Production Board for two years.

New models of the Kaiser-Fleetwings dishwasher are expected for the January Homefurnishings Marts.

Schwartz Gets National Launderall Service Post

DETROIT—Appointment of George E. Schwartz as national service manager for the Launderall automatic home laundry has been announced by the F. L. Jacobs Co.

G. E. Schwartz

In addition to Launderall, Schwartz will be in charge of service for other appliances to be manufactured and sold by the F. L. Jacobs Appliance Division.

Schwartz was formerly associated with Bendix Home Appliances, in various executive service positions, joining that company in 1938. He was a field service engineer for a South Bend machine tool manufacturer during the war, and rejoined Bendix at the resumption of peacetime manufacturing operations.

Brown Instrument Adds New Sales, Service Men In Denver, Salt Lake City

PHILADELPHIA—Effective Jan. 1, the Brown Instrument Co. expanded its sales and service activities in the Rocky Mountain area by establishing permanent sales and service representation in Denver and Salt Lake City, it was announced by William H. Steinkamp, field sales manager of the industrial division of Minneapolis-Honeywell Regulator Co.

Donald Larcen has been placed in charge of Denver industrial sales and George Winslow, formerly industrial service manager at Detroit, will handle similar duties in Salt Lake City, where he will work with Eldon Richardson, Minneapolis-Honeywell district manager.

The areas to be covered by the Denver branch, said Steinkamp, will include all Colorado, Wyoming, and western Nebraska.

The Salt Lake City district will cover all of Utah, southern Idaho, and western Nevada.

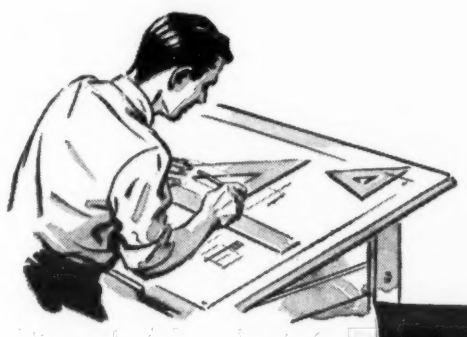
8,000 Ind. Rural Homes Wired for Water Heaters

INDIANAPOLIS — The Indiana Statewide Rural Electrification Co-op estimated at the end of 1947, that more than 8,000 Indiana rural homes have been wired for hot water heaters.

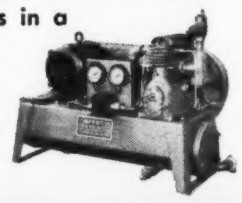
At the same time the co-op announced that it was too busy to take a census of how many electric water pressure systems and bathroom installations have been made during the past year, but estimates are that the number will about equal the installations of hot water heaters.

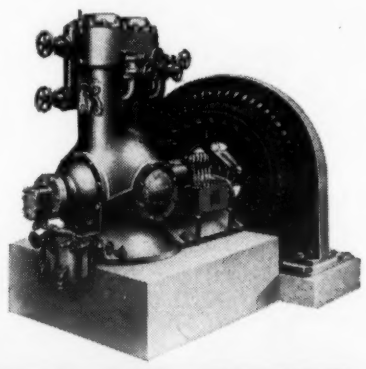
The co-op said that more than 85% of all Indiana farms are now wired for electricity and present a tremendous market.

No estimate was given out on the number of home freezers and refrigerators installed on farms during 1947, but the number was substantial and local retail appliance dealers and department store appliance departments throughout the state report there still is a wide field for marketing of these two farm necessities.

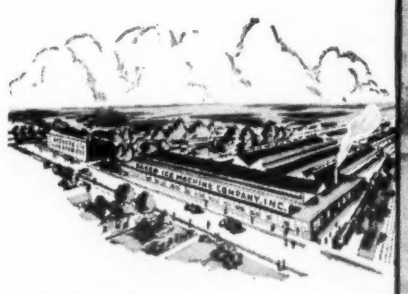


THERE IS A BAKER UNIT AVAILABLE FOR EVERY TYPE OF JOB
Baker offers a complete line of precision-built Freon and Ammonia equipment. Units in a wide range of capacities for both low and high temperature work.

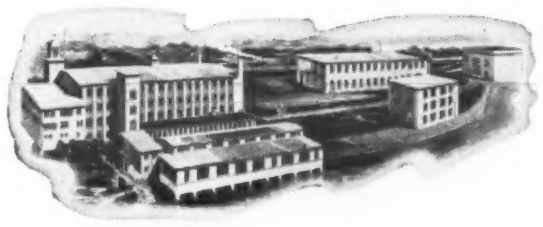




OVER 40 YEARS OF ENGINEERING EXPERIENCE
Since 1905 Baker has pioneered in many fields of refrigeration and air conditioning. Today its wealth of knowledge is available to find the right answer to your problem.



ENLARGED PLANT FACILITIES
at South Windham, Me. and Omaha, Neb., are turning out more Baker quality equipment than ever before in the company's history.



BAKER SERVICE IS NEAR YOU!
Company branches and distributors, staffed by experts are located in principal cities from coast to coast. For the name and address of the office nearest you, write: Baker Ice Machine Co., Inc., South Windham, Maine. B-1

Zone balanced • Engineered

BAKER AIR CONDITIONING AND REFRIGERATION

FACTORIES AT OMAHA, NEBRASKA AND SOUTH WINDHAM, MAINE • • • HEADQUARTERS, SOUTH WINDHAM, MAINE

$500,000 Improvement Program Nearly Ended At Schaefer, Inc., Plant

MINNEAPOLIS — A half million dollar improvement and modernization program at the Minneapolis plant of Schaefer, Inc. is in the final stages of completion.

Harold L. Schaefer, president, states that this plant improvement program is necessary to keep pace with an accelerated sales plan for frozen food cabinets, and home and farm freezers.

Entirely new and modern enameling ovens and spray booth equipment, together with the latest in welding equipment and straight line production conveyors have been installed.

Testing laboratory has been entirely revamped and equipped with apparatus to check the quality of materials used and efficiency of all equipment produced in the plant, Schaefer said.

Bassett, Wolverine Mgr., Elected C. & H. Vice Pres.

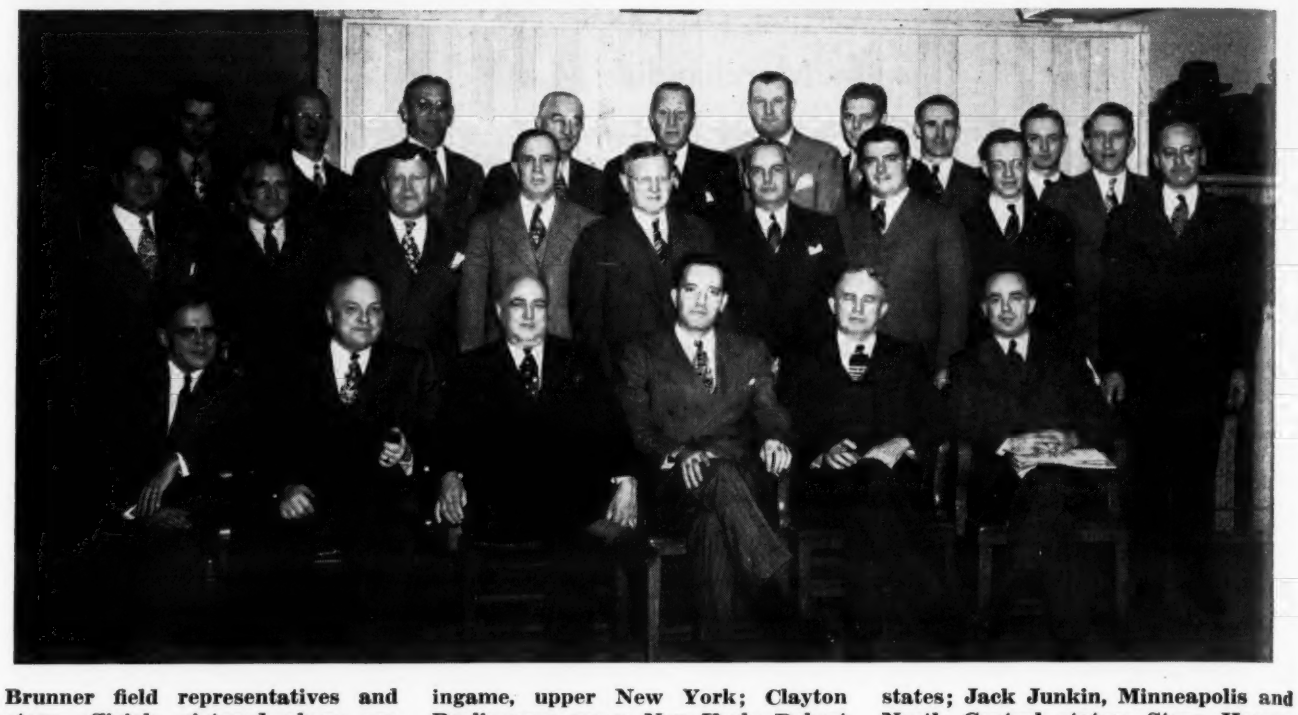
DETROIT—H. Y. Bassett, general manager of the Wolverine Tube Division of Calumet & Hecla Consolidated Copper Co., has been elected a vice president of the parent concern, the company announces.

A. E. Petermann, general counsel, and A. H. Wohlrab, general manager of the Calumet division, were also elected vice presidents, while Robert Livermore of Boston has announced his retirement as vice president. He will remain as a director, however.

Worthington Stock Split Asked

HARRISON, N. J.—A proposal to increase the authorized common stock of the Worthington Pump & Machinery Corp. here from 750,000 to 2,250,000 no par shares and to split each share of the issued common into three shares will be submitted to stockholders at the firm's annual meeting on March 23.

They Helped Brunner Score Biggest Sales Record In 42-Year History



Brunner field representatives and factory officials pictured above are (left to right): Back row: Elmo Burlingame, upper New York; Clayton Burlingame, upper New York; Robert Smith, Southwest; George Mathews, metropolitan New York; Franklin G. Slagel, Pacific Coast; William Cashin, New England; Walter McDaniel, Southwest; Fred Murray, Canada; Hugh Davis, Canada; Howard Parker, Canada.

Middle row: T. J. Lyon, Chicago; Frank Carryl, Southeast; Larry DeMarsh, Kansas City and South Central states; Jack Junkin, Minneapolis and North Central states; Steve Hanna, Pittsburgh and Cleveland; Frank Wilson, Pennsylvania; John Karl, export; John Denholm, metropolitan New York; E. H. Schiller, purchasing.

Front row: H. S. Ormsbee, Jr., export; Jeff Reid, Iowa and Nebraska; A. G. Zumbrun, executive director; J. W. Thomas, general sales manager; Bart Fleming, Baltimore and Washington; L. B. Menard, Cincinnati.

* * *

Bissell Elected to Board Of Wilson Refrigeration

SMYRNA, Del.—Alfred E. Bissell, of Wilmington, Del., a partner in the stock brokerage firm of Laird, Bissell & Meeds, has been elected a member of the board of directors of Wilson Refrigeration, Inc., a division of the Wilson Cabinet Co., it is announced by John E. Wilson, Jr., president of the company.

Brunner Sales Force Previews Company's New Developments During Week at Factory

UTICA, N. Y.—As the biggest sales year in Brunner Mfg. Co.'s 42-year history came to a close, field representatives gathered here for a week-long series of business meetings and inspection trips.

On one of the trips, the sales force toured the company's research department where working models of new developments—yet to be announced—were put through their paces.

The conference was held as Brunner representatives prepared to launch the 1948 program of meeting all distributors and bringing them up-to-date on design and application developments, plus the advantages of expanded manufacturing facilities.

Opening the conference, A. G. Zumbrun, executive director, pointed out that "in the past six years manufacturing floor space has been doubled and the latest developments in precision production machinery have been and will continue to be installed as made available."

J. Watson Thomas, general sales manager, said the firm's research and engineering departments have also been expanded. He stressed that "all developments will be thoroughly tested under actual working conditions and over a proving period of time before release of new designs or incorporation in existing units."

Representatives were told that Brunner's acceptance in American markets was matched by a corresponding growth in foreign trade.

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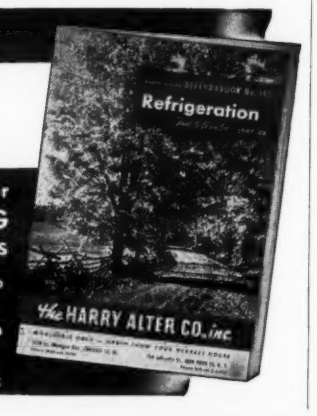
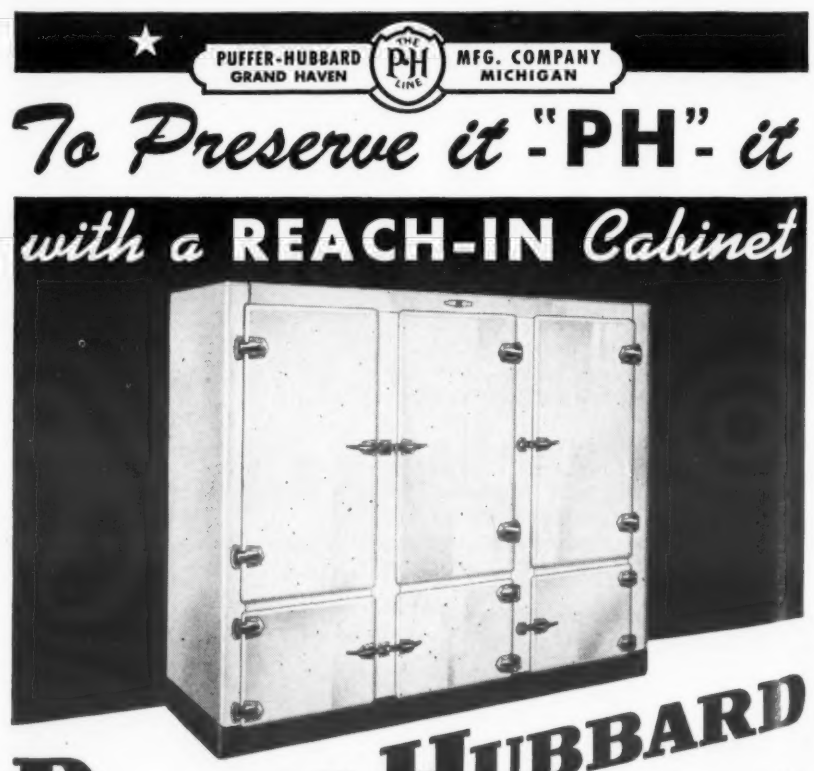
FALL AND WINTER
DEPENDABOOK NO. 145
It's brand new, it's America's finest source for REFRIGERATION, AIR CONDITIONING and ELECTRIC MOTOR Parts and Supplies
Your copy is waiting for you. Write on YOUR letterhead, today to
THE HARRY ALTER CO., INC.
1728 S. Michigan Ave., Chicago 16, Illinois
134 Lafayette Street, New York 13, New York



Mark!

MAKE THE SEASONS COME TO YOU

IT'S THE SIGN OF
The Real McQuay



PUFFER-HUBBARD MFG. COMPANY
GRAND HAVEN MICHIGAN
To Preserve it "PH" it
with a REACH-IN Cabinet
PUFFER-HUBBARD
ANOTHER CASE OF GOOD REFRIGERATION ENGINEERING
Electric Welded Steel Frame
Welded Interior Porcelain Lining
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Exclusive Grad-u-matic Air Conditioning
The only refrigerator with this patented feature
Also Manufacture
Dough Retarding Cabinets
Self Serve Vege-Cases
Dry Beverage Coolers
Self Serve Dairy Cases
Write for information
All these plus
All these features and many other refinements are combined into every Puffer-Hubbard cabinet to make it today's best buy. Solid door or glass door models with Thermopane Triple Glass. Also available, Icemaker units.
PUFFER-HUBBARD MFG. CO.
*The Mark of a Good Case
GRAND HAVEN, MICHIGAN, EST. 1898

General Refrigerators Expands Manufacturing, Field Organization

NEW YORK CITY—Expansion of General Refrigerators Corp.'s field organization and manufacturing facilities in preparation for the new year was reported by E. P. Newins, vice president in charge of national sales.

Newins said the firm has completed its field program of setting up factory representatives in 26 of the nation's strategic trading areas. Each representative has been instructed by a factory executive, he stated.

The new field organization will coordinate its activity with the releasing of seasonable advertising and an extensive vocational direct-mail campaign, together with dealer helps in engineering and merchandising problems, Newins explained.

It was also announced that General's merchandising and sales promotion division has developed several new sales campaigns. These campaigns will be released to 5-Star Dealer set ups through the field organization.

Reporting on expansion of manufacturing facilities, Newins said the No. 2 plant has been tooled up for the exclusive production of new, full-vision display cases. Scheduled for full operation around Feb. 1, this plant will permit General to continue quoting "immediate delivery" on its complete line, now comprised of 48 models, according to Newins.

"The line has been expanded to meet and serve demands for every type of commercial refrigeration from six models of the stainless steel reach-ins to a portable metal walk-in from 100-cu. ft. to any desired size," it was pointed out.

Newins said the No. 1 plant has been operating at capacity for the past 14 months.

St. Louis Butcher Supply To Handle York In East Missouri

ST. LOUIS — An exclusive franchise for the distribution of York refrigeration products in the eastern half of Missouri has been announced by the refrigeration division of St. Louis Butcher Supply Co., St. Louis.

The company, which in addition to supplying food retailers with cases and machines, builds walk-in coolers and custom refrigeration of many types, has already been utilizing York condensing equipment extensively, according to A. Seibert, head of the refrigeration division.

Steen Buys Kelley Electric

BELLE FOURCHE, S. Dak.—The Kelley Electric Shop at Belle Fourche, formerly operated by Frank Smith, has been purchased by Travis Steen, who will operate it with the same lines as before.

Sales Post at Henry Valve Goes to Yantis

CHICAGO — Roy C. Yantis has joined the Henry Valve Co. as assistant sales manager, succeeding George W. Wilson, who resigned.

Roy C. Yantis

Yantis has been associated with the refrigeration industry for several years, having been with Frigidaire, Gibson Refrigerator Co., and was chief refrigeration engineer for Wolverine Tube Division of Detroit, prior to joining the Henry organization.

$50,000 Addition Scheduled

HOUSTON, Tex.—A $50,000 addition is planned by Glazier Frosted Foods Co., 2216 Silver St., it is reported here.

New Fruehauf Trailer's Waist-Level Floor Height Makes Ice Cream, Frosted Foods Accessible for Speedy Store Delivery

DETROIT — A new refrigerator van, designed and built by the Fruehauf Trailer Co., for store-door delivery of ice cream and frosted foods, enables the driver to reach any part of the load while standing at street level.

The low-slung, streamlined trailer has three insulated compartments and one non-insulated storage compartment, with four doors on each side of the vehicle.

Drivers who have used the new unit for ice cream deliveries say the waist-level floor height speeds delivery service. No sorting of load is necessary. Seldom-used flavors are placed near doors on street side of trailer—other flavors are placed in curb-side compartments.

The new Fruehauf ice cream delivery van is available in two sizes, a 20-ft. model of 1,000-gallon capacity, and a 22-ft. unit of 1,500-gallon capacity.

One of the new ice cream delivery vans now being manufactured by Fruehauf Trailer Co. in two sizes.

Light-weight, integral-frame type construction is used and the body is insulated with a combination 5-in. Rubatex in floor and 6-in. Ultra-Lite Fiberglas in sides, with 7½-in. Ultra-Lite Fiberglas in roof.

Refrigeration is provided by hold-over plates with either electrical drive compressor or make-and-break.

In actual service, one operator loads the trailers at night and charges the "Kold-Hold" plates by hooking up to plant ammonia system, bringing temperatures inside the van down to -18° F. After a full day's run, under the most extreme conditions, inside temperature does not exceed 2°.

NOW

Famous Suniso "G" Refrigeration Oils . . .

IN ONE- AND FIVE-GALLON CONTAINERS

* *Only the three "G" grades are supplied in one-gallon and five-gallon containers.*

For greater convenience in servicing small refrigeration and air-conditioning units, the famous Suniso "G" Oils are now available in sealed one-gallon and five-gallon containers.

Suniso "G" Oils are shipped free of moisture to give a dielectric strength in excess of 25,000 volts. The new, small packages minimize the risk of moisture absorption, which formerly took place when drums were stored for long periods and were constantly re-opened.

Suniso Oils—both regular and "G" grades—are crystal-clear, pale oils of exceptional stability and long life. They are first choice in the industry. *Probably more Suniso Oils are used for refrigeration and air-conditioning than all other brands of oil combined.*

Suniso Oils are available in ten different grades.* All have maximum resistance to reactive change when in contact with Freon, methyl chloride and other modern refrigerants. Their pour points extend to as low as 35 degrees below zero Fahrenheit, and the floc (wax separation) point for some grades of Suniso is as low as 70 degrees below zero Fahrenheit.

For the names of the wholesalers selling Suniso Oils in your area write Department RN-1.

SUN OIL COMPANY • *Philadelphia 3, Pa.*

In Canada:
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SUN PETROLEUM PRODUCTS

"JOB PROVED" FOR INDUSTRY

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In the Heart OF DETROIT

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The Tuller, a modern hotel for those who want the best! Convenient to Offices, Theaters, and Shops. Friendly, courteous service and real Hotel Comfort. The Tuller Coffee Shop or Cafeteria for your Dining Pleasure at modest prices. It pays to stay at Hotel Tuller.

VISIT OUR COCKTAIL LOUNGE
ONE OF DETROIT'S FINEST

800 ROOMS WITH BATH FROM $2.75

HOTEL TULLER

RICHARD C. HODGES, Mgr

Nelson Co. Adds Offices, Shifts Field Personnel

MOLINE, Ill. — A number of changes in its field organization were announced recently by the Herman Nelson Corp. here, manufacturers of unit heaters, ventilators, and blowers, and propeller and centrifugal fans.

New branch sales offices were opened in Springfield, Mass. and Baltimore, Md. Philip A. Boulton, formerly of the Boston office, has taken charge at Springfield while Frederick M. Hewitt moved from Washington, D. C. to handle the Baltimore office.

Among the firm's product application engineers, Richard K. Hunter & Co. of Greensboro, N. C. has been appointed to cover both Carolinas, Appleton Engineering is representing the firm in the Denver area, and D. R. Rippey of Houston, Texas, has been assigned additional sales territory in the San Antonio area.

W. Donald Strause has been added to the staff of the Philadelphia branch office. W. B. Polhemus will work at the Cleveland office.

The Cincinnati branch office has moved to 1107 Enquirer building.

Goodrich Catalog Shows Protective Clothing Line

AKRON, Ohio—A 12-page catalog section on the industrial protective clothing it merchandises has just been published by The B. F. Goodrich Co., Akron. Copies are available upon written request to the company.

The publication pictures and describes both the rubber and the Koroseal (synthetic flexible material) garments it handles. Included are the Koroseal industrial rain coat, acid proof apron, sleeve protectors, work suit, film industrial apron as well as the heavy duty industrial apron.

Rubberized products pictured and described include the economy work coat, general purpose work coat, double back industrial coat, universal work suit, Ameripol storm suit, dress raincoat, junior police coat, Ameripol fishing smock, workers' leggings, work-n-weather hat, cyclone hat, police and fire coats, Ameripol shop apron, laboratory apron, heavy duty industrial apron and dairy and canners' apron, as well as rubber-canvas work gloves.

White Establishes Branch Warehouse In Denver

DES MOINES, Iowa — Establishment in Denver, Colo., of a branch warehouse of the White Refrigeration Supply, Inc. here, under the name of Thermo Supply, Inc., has been announced by W. C. White, president.

The new branch, located at 30 W. Tenth Ave., is expected to be opened for business sometime in February, White said.

Wallace A. Henry, vice president of the White firm, will manage the Denver outlet. Prior to his present connection, Henry had been a sales representative for manufacturers of refrigeration components, according to White.

Thermo Supply will occupy a new modern building, expected to be completed this month.

Henry V. Dick Moves

COLUMBIA, S. C.—Henry V. Dick & Co., Inc., wholesaler of air conditioning and refrigeration parts and supplies, has moved into new quarters at 1900 Calhoun St. here. The former location was 703 Main St.

Langenfeld To Head Cory Demonstration Program

CHICAGO—E. A. Langenfeld has been named by Cory Corp., manufacturer of glass coffee brewers and Fresh'nd-Aire electric air circulators and humidifiers, to head the company's new product demonstration program, it was announced by T. R. Chadwick, sales director.

E. A. Langenfeld

In his new post, Langenfeld will direct and supervise the projected product demonstration program. He will appoint demonstrators, direct training, and supervise routing, working in immediate conjunction with the sales department.

The Cory sales program plans include permanent demonstrators in key positions as well as roving demonstrators for spot promotion.

Prior to joining Cory, Langenfeld directed the Essaness theater chain.

What Does Manufacturer Watch for When He Selects His Dealers?

MADISON, Wis.—If you will be perfectly honest with yourself, Mr. Appliance Dealer, here is one way to find out why that competitor across the street has a franchise for the line of a certain large manufacturer and you haven't.

Just rate yourself by the following chart. It's the chart used by the appliance manufacturer in question when selecting dealers, according to a report in the December issue of "Dealer Doings," a news magazine published by Wisconsin Power & Light Co.

	Perfect Score
Standing in community	16%
Financial and credit standing	16%
Management ability	10%
Display and demonstration facilities	10%
Knowledge of specialty selling	10%
Sales aggressiveness	8%
Service facilities	8%
Promotional effort	8%
Character of location	8%
Size and attractiveness of store	6%
	100%

Does this chart emphasize some points you perhaps never thought important?

"You will notice," the utility magazine stressed, "that he (the manufacturer) considers your standing in the community worth twice as much as service facilities, although we know they are important. "This manufacturer puts management ability above the size of your store."

You can arrive at your rating—just as the manufacturer does—by analyzing these specific data, financial data, and sales methods:

Specific data: Years in business, character of location, parking facilities, character of property (size, age, appearance), and store layout (good or poor). Does dealer have complete service department? Any outside business interests? Is dealer of aggressive type? How does he stand in community?

Financial data: D-B rating, credit limit, terms, bank reference, credit references, approximate value of inventory, facilities for financing sales. Does dealer own or rent store? Does he plan any store expansion?

Sales data: Home demonstration? Store demonstration? Canvassing. Other. Number of sales people inside and outside. Method of remuneration. Territory covered regularly? Type of advertising: direct mail, local paper, point-of-sales displays, billboards, local theater trailers, telephone solicitation.

Facilities for servicing major appliances. Facilities for handling trade-ins. What quantities will he order? Does dealer have adequate warehouse space?

RETURN EMPTIES NOW

Full Deposit Refunded Immediately

Take a few minutes—now—to look around your grounds. Spot every "Freon" cylinder on the place. Line up those empties for immediate return. In accord with our standard procedure, full deposit originally paid will be promptly refunded upon receipt of cylinders at our "Freon" plant, Carney's Point, N. J.

By returning cylinders now you'll be doing yourself a favor . . . benefiting your own interests because you'll be helping to insure prompt delivery of "Freon" when you want it. You'll help eliminate the serious shortage of cylinders . . . a shortage that now actually threatens shipments of "Freon"!

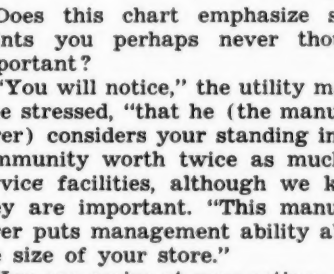
Urge every one of your customers to do the same. Urge them to return cylinders the same day they become empty. It's important . . . the need is an urgent one. Cylinders are needed NOW to continue filling orders. RETURN EVERY CYLINDER THE DAY IT'S EMPTY. Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington 98, Delaware.

SHIP EMPTY "FREON" CYLINDERS VIA FREIGHT COLLECT TO:

Kinetic Chemicals, Inc., Carney's Point, New Jersey
(Designate P.R.S.L. as delivery carrier.)

Plan now to visit the "Freon" exhibit—Booth 414—at the All-Industry Exposition, Cleveland Auditorium, Cleveland, Ohio —January 26-29, 1948

KINETIC
FREON
REG. U. S. PAT. OFF.
safe refrigerants
"FREON" IS KINETIC'S REGISTERED TRADE-MARK FOR ITS FLUORINATED HYDROCARBON REFRIGERANTS AND PROPELLENTS



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RAYBESTOS-MANHATTAN, INC.
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Lipman
AUTOMATIC REFRIGERATION
For year-in and year-out DEPENDABILITY, LIPMAN refrigeration is second to none. Low cost of operation and maintenance assures repeat sales which mean greater profits. Units available in sizes from ¼ thru 40 H.P.

GENERAL REFRIGERATION
DIVISION
YATES-AMERICAN MACHINE CO. Beloit, Wisconsin

Kroger 'Pilot Store' Provides Trial For New Method of Merchandising Perishables

Meats Are Handled From Carcass To Retail Cuts Under Complete Refrigeration, Air Conditioning

CINCINNATI — Self-service refrigeration has been worked out to the last degree in the unique "pilot store" which Kroger Grocery & Baking Co. has developed in an "average income" district here, according to Joseph D. Hall, president of the national retail grocery firm.

From the store will come many of the merchandising innovations and customer services which will be standard through 2,600 Kroger stores, Hall pointed out. Therefore, the store will always reflect "the last word" in every type of merchandising efficiency.

Twenty-six self-service refrigerated display cases, including standard single-tier, self-service units for meat, poultry, fish, and frozen foods, to three-tier, 50-ft. long dairy product cases have been installed in the store.

Outstanding feature of the store is the entirely self-service prepackaged meat department. First of its kind in Cincinnati, this is more than 50 ft. long and has been set up to solve some of the serious problems which have originated with self-service meats elsewhere in the country.

The meat department differs from others in several ways. First, it is located adjacent to the main-store entrance, on the right, where it is the first thing seen by entering customers, rather than the last. Four Hussmann refrigerated cases, with a combined length of 50 ft., display every type of self-service meat, prepackaged in cellophane, and equipped with heat-sealed labels, which "tell the whole story at a glance."

Unlike other stores, the Kroger unit does not attempt to set up its self-service operations from standard butcher-shop equipment. Instead, the meat is refrigerated all the way from receipt until the final sale. Whole carcasses of meat are received at the extreme rear of the store and quartered. It is then hung in a walk-in cooler, 10 x 12 ft., which is located between the receiving room and the cutting and packaging room for proper aging, or to be held for reserve.

As the meats move out of the self-service cases, more meat is drawn from the walk-in cooler, where a staff of five butchers handle both the cutting and packaging job.

All meats are wrapped in moisture-proof, heat-sealed cellophane, sealed with hand-irons, and turnover has been so rapid that there has been no discoloration or re-packaging.

Both the cutting room and packaging room are air conditioned from the store's central 40-ton air conditioning system, and equipped with germicidal lamps.

Like most stores which have gone into complete self-service on meats, Kroger's has found that there are many die-hard customers who refuse to buy meats in this way. Therefore, two "meat hostesses" are kept on duty in the meat department, who help the shopper to find the meat she wants, or if she wants it cut to her own specifications, to relay the order to the butchers for personal service.

Similar prepackaging methods are used for produce, poultry and fish, dairy items, etc.

The dairy case is the largest ever installed in the country, consisting of a 3-tier Hill refrigerator with a length of almost 50 ft. Here, the customer can select from a complete range of butter, oleomargarine, eggs, milk and cellophane-wrapped cheese cuts in an open-top case, similar to those used for other perishables.

As the customer comes into the market, she finds all of the self-service cases arranged in the order in which most women like to build their meals. First is the self-service meat, then packaged frozen poultry, frozen fish, packaged dairy products, ice cream, frozen foods, produce, and frozen baked goods.

Fitting the Surroundings

Druggist 'Builds In' a Beverage Cooler To Save Space, Preserve 'Atmosphere'

ST. LOUIS—A highly unusual refrigeration installation is the new soft drink cooler recently installed by Irwin's Drug's, 6601 Olive Street road here.

Attempting to conserve space in a recent remodeling, Irwin Zuckerman, head of the store, did away with old-fashioned soft drink table-type coolers altogether. Still, he desired to have a small stock of cold drinks on hand to prevent disappointing old customers, and for late-hour customers who would drop in for mixers, ice cubes, etc.

The result is a 4-cu. ft. refrigerator which is sunk in the wall of the drugstore, behind the tobacco counter. Completely silenced by means of locating a ¼-hp. Kelvinator compressor in the rear of the store basement, the refrigerator's two doors are of blonde-wood, which exactly matches the shelving and decorative paneling around the store. Enough space is contained inside to stock four dozen bottles of popular soft drinks, plus two dozen quart bottles of popular mixers, which are kept refrigerated at all times.

Thus, although the store has a dignified professional atmosphere, it's no trick at all for clerks on duty to reach down, and pop up with a bottle of soda when a customer requests it.

"It is just an accommodation for our neighborhood customers," Zuckerman said. "Since we have no fountain, most of our customers are mystified as to where the cold soda comes from."

The tiny refrigerator also "doubles in brass" as a place in which to keep virus, serums, and other biologicals.

PURO Electric WATER COOLERS
BRANCHES IN PRINCIPAL CITIES
MAIN OFFICE
440 LAFAYETTE ST., N.Y. 3, N.Y.
PURO FILTER CORP. OF AMERICA
DRINKING WATER SPECIALISTS FOR 50 YEARS

PLAYSAFE
USE CHICAGO SEALS and VALVE PLATES
Precision lapping, superior construction and simple installation make Chicago seals ideal for replacement.
Only Chicago valve plates have replaceable seats.
PERFECT BALANCE
CHICAGO SEAL CO.
30 NORTH WACKER DRIVE • CHICAGO 6, ILL.

JORDON gives you a great new profit line for '48 . . .
P-50 Double Duty Display Case. Porcelain exterior. Stainless Steel interior. 6' & 8' sizes.
Frozen Food Merchandisers with or without Illuminated Superstructure.
Double Duty Display Case of Stainless Steel. Counter Height. 6' & 8' sizes.
Full Vision Cases. 4' & 6' sizes. Porcelain front.
Wall type Display Case with Porcelain front. 6' & 8' sizes.
JORDON DISPLAY CASES
Every JORDON Refrigerator Is A Real FEATURE-LEADER
A Full Line of REACH-INS In All Temperature Ranges. 20 Cu. Ft. to 75 Cu. Ft. All Finishes.
★HEAVY DUTY ICE MAKERS
★TWO TEMPERATURE MODELS
★ALL LOW TEMPERATURE MODELS
★MODELS WITH FREEZER-LOCKER
★MODELS WITH MEAT HOOKS
The Sensational Success—JORDON 14/6 REFRIGERATOR
★DRY-COLD BEVERAGE COOLERS
★HOME AND FARM FREEZERS
A WIDE CHOICE OF STYLES, SIZES AND FINISHES to Meet Every Store Requirement
National sales figures prove it—when you are a JORDON dealer you always have the right unit. And because JORDON has large, modern production facilities JORDON dealers can invariably make delivery when wanted. You can't beat a combination like that!
These handsome, de luxe quality display cases are only a part of the complete JORDON line now ready and waiting to make profits for you. That is why we emphasize "Why Wait for '48?" There is a big backlog of unfilled orders for display cases. Surveys show that many thousands are needed. So why not get in touch with our sales department today—ask for catalogs and prices. We are ready to back you for profits in your pocket NOW.
WRITE WIRE PHONE for data sheets
PLANT: PHILA., PA.
Jordon
AMERICA'S MODERN COMPLETE LINE
JORDON REFRIGERATOR CO.
Factory and Sales Division
58th ST. and GRAYS AVE., PHILADELPHIA 43, PA.
CABLE: "JORDONREF" BElgrade 6-4510

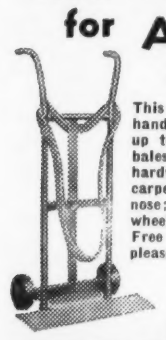
1'ST IN LINE AT THIRST TIME!

OASIS—made by the world's largest maker of electric drinking water coolers—is *first in line* when it comes to delivering complete thirst relief at low cost. Write for details.

The EBCO Manufacturing Co.
401 W. Town St., Cols. 8, Ohio

OASIS ELECTRIC WATER COOLERS

New Padded Truck for APPLIANCES AND FURNITURE



This convenient truck will easily handle all appliances and furniture up to 800 lbs. Also handles crates, bales, barrels. Two flat surfaces hardwood covered with thick pad of carpet. Tube steel, 54" ht.; 24" nose; 13' web strap. 8 x 2 rubber wheels. Price $31.95. Model 80. Free trial. Return collect if not pleased. Immediate delivery.

HANDEES CO.
Dept. AC-1
Bloomington, Illinois

WILSON
REFRIGERATION, INC.
- FARM AND HOME FREEZERS
- REACH-IN REFRIGERATORS
- WALK-IN REFRIGERATORS
- FARM MILK COOLERS

DIVISION OF WILSON CABINET CO., INC.
SMYRNA, DELAWARE

INSIDE DOPE

by GEORGE F. TAUBENECK

(Continued from Page 1, Column 1)

Kirk was in again. This time, his offering was a snuggly electric blanket, which was won by Competitor McGuire, in person. . . .

All the Traffic Will Bear

Poor policy in any business is that of "charging all the traffic will bear." One need have no social consciousness at all to determine the validity of this premise; its proof turns up all the time.

Depend upon it, if you are charging too much for a product or service, that fact will become known, and others will find a way to do it cheaper and cut your business from under you.

The refrigeration business has seen the operation of this law work out over and over again. It has accounted for the rise of some manufacturers, and the demise of others. It has accounted for changing routes and methods of distribution, and it has set in motion whole new cycles of merchandising methods.

One of the most recent of these cycles was the emergence of the serviceman as a merchandiser. He was often first to know when a part of a unit needed replacing. And often first to know when made through the existing channels of distribution, was excessive. So he shopped around, bought the article himself, re-sold it at a small profit.

As a result, a whole crowd of small manufacturers became big manufacturers (especially in commercial refrigeration), and the parts jobbing business became really important in this industry.

Today, according to many reports from the field, there are certain servicemen who are, in turn, making a "good thing" out of this business. They are trying to build a fence around it, and are charging "all the traffic will bear."

Furthermore, there is a tendency on the part of a few such men to duck responsibility for the operation of systems they install. Sometimes, it is charged, low-price installations are deliberately made which these marginal operators know will not work at the time—so that they can come back and sell a few more pieces to make it function satisfactorily.

When purchasers complain, they are answered with:

"You got a bargain, didn't you? What do you expect for your nickel?"

Customers, of course, don't take this sort of treatment—or neglect—"lying down."

They remember the lesson they have learned, they tell others, and as a result, business gets better in that community for enterprises which intend to stay in business a long time and must build for the future on the solid rock of customer satisfaction.

This should not be construed as a blanket condemnation of product selling by servicemen. On the contrary there are many service companies who are in business to stay, and who operate that way.

But reports have been coming in—and more frequently of late—that there are numbers of marginal operators who are giving almost the whole service fraternity a black eye.

Most complaints can be classified as:

(1) Overcharging for service work.

(2) Failing to give satisfaction to customers who have purchased parts or complete units through the service man.

Competition is so important in this industry that uneconomic units soon eliminate themselves.

In this business it's good business to give value received—if you want to stay in business.

How High Can Prices Go?

Question of the hour in the refrigeration and appliance business is: How high can prices go in 1948 without materially affecting volume?

One hears it discussed at conventions of distributors, at conferences of manufacturing executives, in conversations with dealers, and wherever two or more men identified with the industry can get together. Nobody claims to have the answer.

That retail prices on 1948 model household refrigerators will go higher seems to be an accepted eventuality. Steel, motors, controls, insulation, copper, and labor are all up over last year.

Fact is, two or three of the manufacturers who are still in production on 1947 models find themselves in a bit of a jam right now. The materials contracted for having run out, they now find it necessary to purchase new materials, parts, and supplies for these last year's models at considerably advanced prices. This, coupled with increased wages is making further production at the old prices costly.

Hence they have reduced merchandising efforts on current lines; although they have not followed the automobile makers' suit and raised prices on present models.

Just how high retail prices will be raised in 1948 is the question that is bothering practically all manufacturing executives at the moment. Those manufacturers who assemble a considerable portion of their refrigerators say they will have to up prices at least $20 per box in order to make a profit in '48. Larger makers, with facilities for producing almost every component of their units, feel that raises of $12 to $15 may be sufficient—depending upon how much aluminum and plastics they substitute for steel.

But even more worried than the manufacturers are the distributors and dealers. True, the public is being educated to expect higher prices on almost everything. But, say some distributors, there is evidence of a revolt against the current trend toward a higher cost of living. Buyers' strikes may occur in some localities; family expenditures are likely to be diverted toward those products and industries which do not raise prices—or, at least, do not up them very much.

On the other hand, proponents of a substantial jump in retail quotations on 1948 household refrigerators argue that for several years refrigerator prices have been lower than warranted. In other words, the public has been getting more than its money's worth.

Competition has been so intensive that selling margins have been cut possibly too low. Department stores are crying for higher mark-ups; so are many distributors and dealers. And many retail factors report that refrigerators can be sold in great volume even if list prices go up as much as $50 a unit.

Only time and experience can give the answers to these problems. It is to be expected that the next few years will see one of the hottest between-industries competitive races for the consumer dollar that has ever been run in this country. And that should be kept in mind when making up price schedules.

Public acceptance of automatic refrigeration is now taken for granted. So is high sales volume. And no matter whether prices go up $10 or $25 a box, household refrigeration should still be a fine business in 1948.

Allowances for Advertising

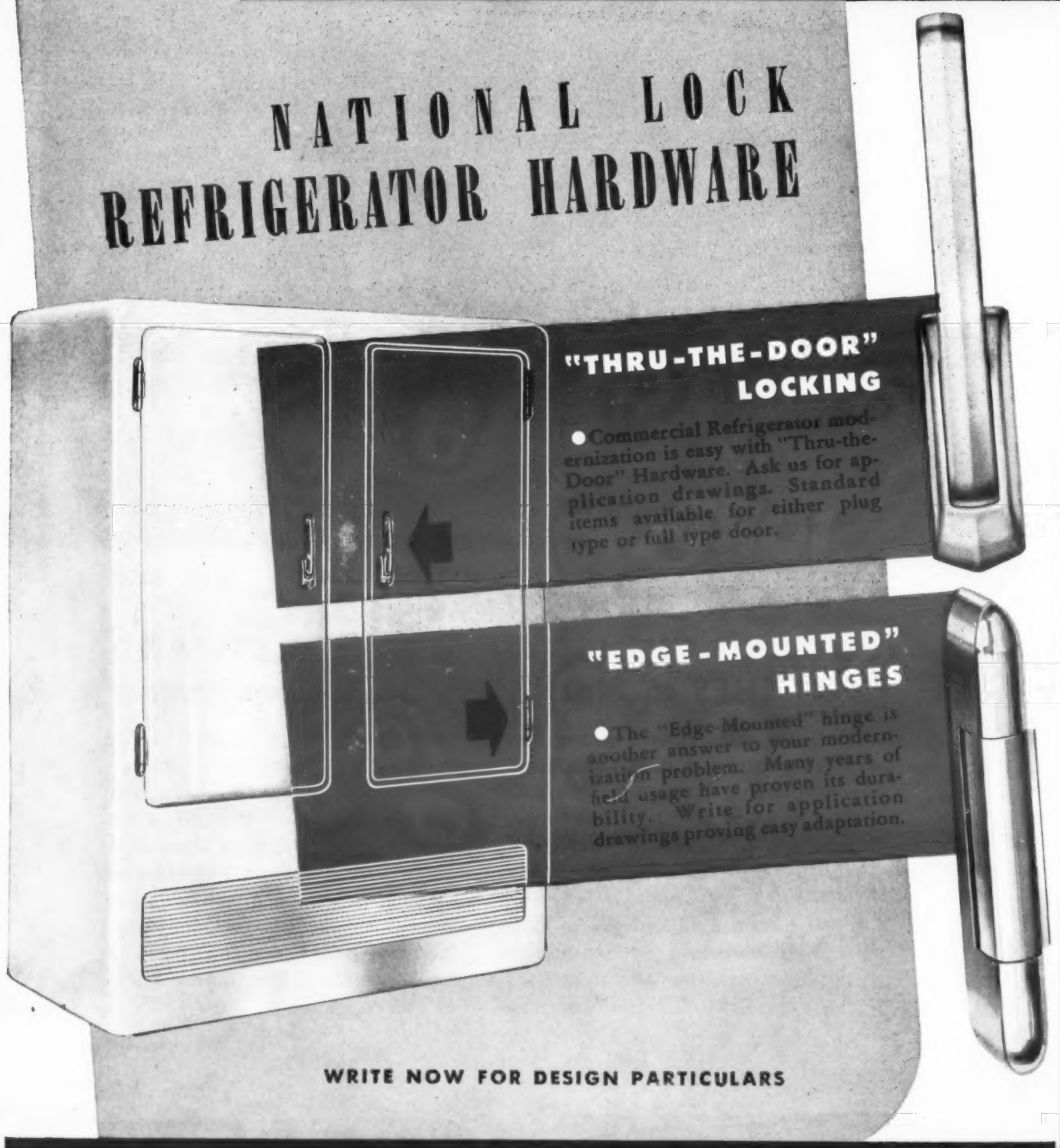
In any study of trade discounts on appliances, the matter of advertising allowances should not be overlooked. It is in this portion of the *actual* discount that the most leeway can be had in making discounts more flexible.

Yet, no part of the specialty selling formula, as applied to appliances merchandising, is so complicated. It is seldom that two manufacturers agree on the method of setting up allowances of this nature.

(Continued on next page)

DESIGNED FOR DURABILITY

NATIONAL LOCK REFRIGERATOR HARDWARE

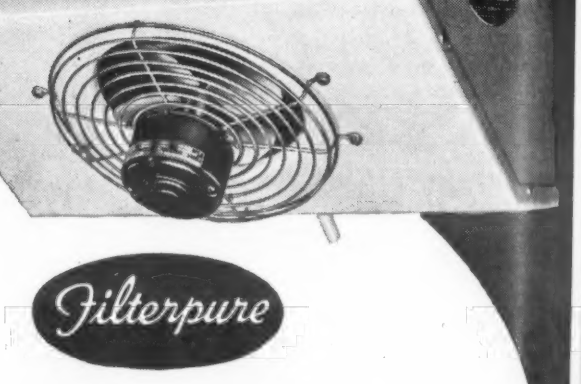

"THRU-THE-DOOR" LOCKING
●Commercial Refrigerator modernization is easy with "Thru-the-Door" Hardware. Ask us for application drawings. Standard items available for either plug type or full type door.
"EDGE-MOUNTED" HINGES
●The "Edge-Mounted" hinge is another answer to your modernization problem. Many years of field usage have proven its durability. Write for application drawings proving easy adaptation.

WRITE NOW FOR DESIGN PARTICULARS

REFRIGERATOR HARDWARE DIVISION

NATIONAL LOCK COMPANY
ROCKFORD • ILLINOIS

LESS SPACE
●
MORE COOLING



Filterpure

Model C Ceiling Unit is only 8½" High. Refrigerated air is exhausted against the back wall, resulting in positive circulation to the bottom—Equipped with air purification—Peak performance for Reach-ins, Florist Boxes, Dairy Cases, etc. Made in 3 sizes to balance ¼, ⅓ and ½ H.P. compressors.

Sold by Leading Refrigeration Wholesalers

BETZ CORPORATION
HAMMOND • INDIANA

INSIDE DOPE

by GEORGE F. TAUBENECK

(Continued from preceding page)

That the rigid discount system is open to criticism for unfairness in specific instances is granted by most students of specialty selling. However, by astute manipulation of advertising allowance funds—grants from which are subject to a certain discretion upon the part of sales executives—some of the unfair aspects of the discount system can be alleviated and counterbalanced.

Credit for commendable and extraordinary promotional effort by dealers and distributors is frequently granted in terms of prizes and honors; credit of a more tangible manner can be extended through advertising allowance grants.

Most manufacturers withhold payment of advertising allowances until the end of the year, fiscal or calendar. An arbitrary figure—say, 2%—is placed on each unit as the advertising allowance. At the end of a year, the dealer is given a rebate equal to 2% of the retail price of all units he has purchased, providing he has met certain conditions and cooperated properly on the promotion program.

This is the basis of the plan. It is, however, subject to a great many limitations. First of these is the "matching" idea. Manufacturers generally pay 50% of the cost of local newspaper advertising; the dealer must put up the other half out of his projected advertising allowance.

In many cases the dealer can obtain a lower rate on such advertising; if it were placed by the manufacturer, the latter would pay the "national" rate. But in any event, a strict 50-50 accounting is made by the manufacturer before the allowance is granted.

Some manufacturers permit the advertising allowance to be applied toward the purchase of direct mail pieces, outdoor posters, electric signs, and prospect gifts. Others set up a special fund for this purpose, an additional advertising allowance, which is granted only if these specified services are employed.

A few manufacturers try to make a small profit on their direct mail and promotion specialty services, so as to help their promotional departments "pay for themselves." Others supply such services at cost. Still others pay up to 50% of the cost of such materials—charging their contributions off to the dealer advertising allowance fund.

Whether or not such items as local radio advertising, use of movies and slidefilms, the purchase or renting of display trailers, and expenditure for exhibits may be charged against the advertising allowance fund are matters on which there is no uniform practice.

There is a trend, however, to include more and more such items in the group which can be charged to the advertising allowance fund—providing, usually, that the dealer puts up an equivalent amount in each case.

Recently the possibility of setting up an additional advertising allowance—say, one-half of 1%—as a reward for meeting quota, has been explored by a few manufacturers. Some call this a "convention allowance," and grant it to the distributor or dealer who places an order for his entire quota at the convention where new models are shown.

It should not be assumed that these additional discounts in the form of advertising allowance rebates are always granted. True, the manufacturer does set aside an allowance fund equal to a specified percentage of the retail price of all units sold during the year; but rebates to dealer or distributor are granted out of this fund only in case said dealer or distributor has met all the conditions and requirements stipulated.

Thus active dealers can be rewarded, and indigent organizations penalized, by the operation of such funds. Those who make the fullest use of their opportunities under these conditions are almost invariably the ones who get the most business, and usually the ones who ring up the best profits.

Anti-Inflation Suggestions

"Every American owes it to himself in self defense to insist today that the representatives from his district in Congress, and the executive branch of our government rise above ordinary politics during this grave emergency and demonstrate true statesmanship. We need action now or it will be too late."

Thus speaks an important executive in our industry. He points out that food prices have soared to an all-time record and are likely to soar higher. And he intimates that if government, business, labor and agriculture, working together as a team against the common cost-of-living enemy, do not immediately act to halt the upward surge of prices and bring the necessities of life back within reach of "the really forgotten man," that this nation would soon face grave consequences.

Emphasizing that neither price nor wage controls will solve the problem, he suggests a 9-point program which he thinks could bring the nation's economic structure back on an even keel if government, business, labor and agriculture unite in an unselfish effort to accomplish this purpose.

This 9-point program can be summarized as follows:

1. Turn food prices downward by suspending artificial government support of farm prices which is helping to keep them up.

2. Buy for export intelligently through a central government agency that will operate in such a way as to prevent domestic prices from skyrocketing because of purchases needed for foreign aid.

3. Allocate by export licenses shipment overseas of scarce materials, and thus minimize hardships at home as far as possible.

4. Let interest rates rise, so investors will buy long-term securities, removing money from circulation that is now competing for goods and bidding up prices.

5. When food prices start down government should also ask organized labor to stop demands for wage increases for a year.

6. When assured of such cooperation from labor Government should ask industry to stop wholesale price increases for a year and ask distributors and retailers to reduce retail prices wherever possible.

7. Government should reduce its own expenditures, balance its budgets, use the savings to pay off the federal debt and still maintain a strong national defense while supporting the Marshall Plan.

8. Government should enact the community property tax early in January; put through other tax cuts; pass savings to the "really forgotten man."

9. Forget price and wage controls; keep free markets, and stop bidding up prices by competing with one another for scarce items. Instead the government should switch to other items in better supply and costing less when implementing the Marshall Plan.

Sounds sensible, doesn't it ?

Most Modern—Most Efficient
Most Economical To Use

The "NAT" Suspended GAS UNIT HEATERS

85,000-125,000 and 165,000 BTU Capacity
Available for Natural, Butane or Propane Gases.
Delivery within 3 or 4 days.
Some exclusive territories still available.

• • •

Union Made

We also manufacture a combination heating and cooling unit, gas fired furnace and the NAT "Self-Contained" Air conditioning unit.

THE **NAT** CORPORATION
2710 McGee Trafficway Kansas City 8, Mo.

Where a quality product demands the finest of

INSULATION

- - - that product needs

TENSULATE

Tensulate is a mineral wool with millions of dead-air cells that insulate with maximum efficiency, made by

Tennessee Products & Chemical Corp.
NASHVILLE 3, TENNESSEE

Footpower was fine for spinning wheels

TO TURN A SHAFT TODAY...

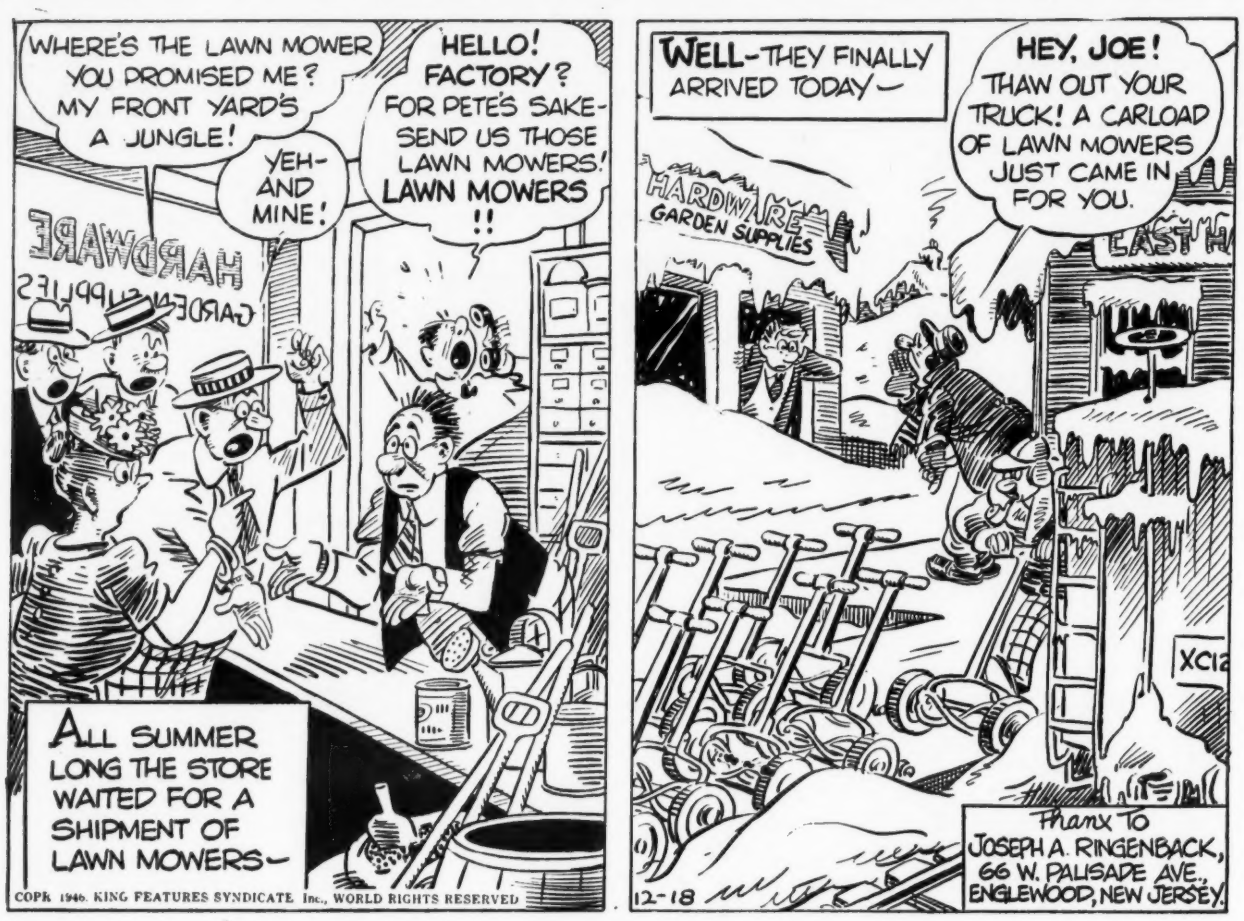
Aren't these the qualities you want in a modern appliance motor: compactness, efficiency, economy, smoothness, quietness and dependability? These same qualities—*plus* individual engineering for the specific application—distinguish the Delco motors used in leading makes of refrigerators, washers, ironers, stokers, oil burners, air conditioners and other appliances. Delco Products' long association and fine record with the appliance industry are behind the Delco motors you specify today. Built in sizes from 1/8 to 50 h.p. Delco Products Division, General Motors Corporation, Dayton, Ohio.

Specify DELCO MOTORS

DELCO PRODUCTS
DAYTON, OHIO

DELCO MOTORS
Power America's Leading Appliances

They'll Do It Every Time . . . . By Jimmy Hatlo


WHERE'S THE LAWN MOWER YOU PROMISED ME? MY FRONT YARD'S A JUNGLE!
YEH- AND MINE!
HELLO! FACTORY? FOR PETE'S SAKE- SEND US THOSE LAWN MOWERS! LAWN MOWERS !!
ALL SUMMER LONG THE STORE WAITED FOR A SHIPMENT OF LAWN MOWERS-
COPR 1946. KING FEATURES SYNDICATE Inc., WORLD RIGHTS RESERVED
WELL-THEY FINALLY ARRIVED TODAY-
HEY, JOE! THAW OUT YOUR TRUCK! A CARLOAD OF LAWN MOWERS JUST CAME IN FOR YOU.
HARDWARE GARDEN SUPPLIES
XC12
Thanx TO JOSEPH A. RINGENBACK, 66 W. PALISADE AVE., ENGLEWOOD, NEW JERSEY.
12-18

It's Time To SELL Again!

HORSEPOWER-- harnessed by HUSSMANN!

HUSSMANN Condensing Units are made in sizes from ¼ HP to 2 HP, in both air-cooled and water-cooled types—to deliver efficient, effective refrigeration economically, quietly, and safely.

Vibration and noise are reduced to a minimum. The compressor and fan have been designed, and belt guard added for greater durability and more modern, streamlined appearance. The load is completely safe for all motors of proper rating, regardless of manufacturer.

And, to facilitate servicing and belt adjustments, a belt tightener has been added to the larger sizes. Furthermore, many parts are interchangeable throughout the entire line, for the sake of simplifying operations.

The newly improved HUSSMANN line of Condensing Units is truly an important contribution to the Refrigeration Industry—another outgrowth of HUSSMANN Know-How.

HUSSMANN

HUSSMANN REFRIGERATION, INC.
HUSSMANN BLDG. • ST. LOUIS 6, MO.
THE NAME THAT STANDS FOR *Completeness* IN FOOD STORE REFRIGERATION EQUIPMENT

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

Trade Mark registered U. S. Patent Office; Est. 1926

AIR CONDITIONING AND REFRIGERATION News

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Who Are The Major Owners Of American Enterprises?

EIGHT out of 10 persons have absolutely no knowledge about the ownership of large corporations; and one out of three American citizens believe that a small group of fabulously wealthy men like the Fords, DuPonts, and Rockefellers own most of them, a recent public opinion survey has revealed.

Wouldn't most of these polled American citizens be surprised to learn that nearly 4,000,000 people hold common-and-preferred stock shares in 18 of the largest corporations in this country? Darned right they would be. But that's the exact truth.

It's obvious that American businessmen have failed to acquaint American voters with the Facts as to capitalistic ownership.

One corporation alone, for example (American Telephone and Telegraph), has nearly 700,000 stockholders. Six others boast more than 200,000 stockholders, and 11 more of the larger corporations are owned by more than 100,000 individual citizens of the mighty United States of America.

One of the latest tabulations of stockholders (owners) of Big Business in America runs as follows:

American Telephone & Telegraph	683,897
General Motors	425,657
Cities Service	329,155
General Electric	243,233
United States Steel	225,822
Radio Corp. of America	218,873
Pennsylvania Railroad	215,034
Commonwealth & Southern	170,391
Standard Oil of New Jersey	160,025
Bank of America	157,573
Consolidated Edison, New York	152,888
Transamerica Corp.	152,321
Public Service, New Jersey	132,907
Socony-Vacuum	130,130
Anaconda Copper	120,545
Pacific Gas & Electric	113,933
Packard Motor Car	112,845
Commonwealth Edison	111,704

Judging from this tabulation, it's obvious that plenty of "little people" are owners and capitalists in the United States of America. Their composite *average owner* could no more be identified with the fabled picture of a gilt-edged, coupon-clipping clubman—wearing a stove-pipe hat and a gold-tipped cane—than could Li'l Abner be classified with Lucius Beebe.

In America, the "little people" tell Big Shots where to get off, and give the latter their come-uppance—when they feel like it. They vote, and they are free.

In America, women own more wealth than men do.

In America, widows and orphans and Guys Named Joe are Capitalists.

In America, American Free Enterprise is the business of *all* the people.

Artesian Well Helps Operator Run His Locker Plant System More Economically

Compressors Use Water 10-15° Cooler Than That from City

ASHLAND, Ky.—The 300 lockers which are contained in the Carter Locker Plant here, operate far more economically than usual due to an unusual economy feature developed by E. C. Carter, owner of the plant, when it was recently constructed.

Building the locker plant for maximum economy in operation, Carter insulated it with 12 in. in the ceiling, 8 in. in the walls, and 8 in. under the floor. Two condensing units were installed to maintain zero temperature consisting of one 5-hp. compressor and a 1½-hp. "standby" unit.

These are completely enclosed against the weather at the rear of the plant, and are both water-cooled machines. Cooling water for the compressor cylinders is obtained from a 75-ft.-deep artesian well and a pump, which passes 2½ gallons per minute of water at temperatures varying between 10 and 15° F. lower than that available from the city water system through the units. As a result, refrigerant is cooled more rapidly, and the condensing units operate at minimum cost.

A stunt which Carter has used to attract a lot of attention to his plant is the offer of "locker insurance" which guarantees customers the full value of all the foods stored in their locker at current market prices, in the event that a breakdown or spoilage occurs.

This insurance is made possible, according to Carter, due to the installation of a temperature recording machine, similar to those used by manufacturing plants to make a record of boiler temperatures, which draws a line on a revolving disc marked off into "temperature segments."

This shows automatically exactly what the temperature was at any given time during a week, and the discs are kept filed away for protection against customers who complain that meat has spoiled, or other damage has occurred to their foods in storage.

Carter was able to get an extremely low premium rate in underwriting the insurance cost, due to the fact that he has also installed an electric alarm system, which by means of a solenoid and thermostat, rings a bell whenever the temperature in the locker room rises to 5° F.

Carter's living quarters for himself and family are in the locker-plant structure, and thus, if a breakdown does occur, or someone carelessly leaves a door open he can rectify the trouble in a moment.

Emanuels Gets Sales Post At Pacific Scientific Div.

SAN FRANCISCO—Mason Emanuels, manager of the Seattle office of Pacific Scientific Co. for the last two and one-half years, has been selected to fill the newly-created position of sales manager of the Light Industrial Division for the entire company, including its Los Angeles, San Francisco, and Seattle offices, W. P. Balderston, president, announced.

Effective Jan. 1, 1948, the appointment will result in a closer coordination of the company's activities as Pacific Coast representative of Alco Valve Co., Henry Valve Co., White-Rodgers Electric Co., Nu-Way Corp., and other manufacturers.

Emanuels, who will make his headquarters in Los Angeles, joined Pacific Scientific nine years ago. He was first stationed at San Francisco in charge of sales in the heating, refrigeration, and air conditioning industries for northern California.

He is a member of the American Society of Refrigerating Engineers and the American Society of Heating and Ventilating Engineers.

Liquid Carbonic Reports Profits Nearly Doubled

CHICAGO — Net sales and net profits of the Liquid Carbonic Corp. for the fiscal year ending Sept. 30, 1947, nearly doubled those of the previous fiscal year, the firm's annual statement revealed recently.

Net sales climbed to $40,718,867 for the fiscal year as compared to $23,746,562 for the previous 12 months. Consolidated net profit, after all charges, rose from $1,256,926 to $2,002,830.

The net profit equaled $2.40 per common share during the fiscal year ended Sept. 30, 1947, and $1.38 during the previous year.

Working capital of the firm increased to $14,069,206 from $12,855,362 for the fiscal year ending in 1946. Inventories were $10,498,110 in 1947 compared with $7,394,559 in 1946.

The annual statement also noted that Liquid Carbonic had entered into an agreement to acquire all the stock of the Stuart Oxygen Co. in California for 100,000 shares of its common stock.

Adams Named Head of Kerotest Purchasing

PITTSBURGH—Stanley J. Roush, executive vice president of Kerotest Mfg. Co., announces the appointment of E. T. "Kink" Adams as director of purchases.

E. T. Adams

Adams has been foreign representative for Kerotest and for 12 years had been purchasing agent of the Sinclair Oil Co. in Mexico. Prior to that, Adams had been with Standard Oil of Venezuela.

First Colony To Handle York

RALEIGH, N. C. — First Colony Distributors, Inc. air conditioning and refrigeration division has been appointed distributor for York air conditioning and refrigeration equipment in this territory.

NIAGARA

"NO-FROST" METHOD WITH SPRAY COOLERS

. . . gives always full capacity because there is no interruption for defrosting at sub-zero temperatures; protects quality in foods.

NIAGARA BLOWER COMPANY

30 Years of Service in Air Engineering

405 Lexington Ave., New York 17, N. Y.

DON'T REBUILD Armatures

Save BY BUYING NEW WAGNER Armatures

They have new core iron and windings, new commutators properly undercut, new shafts, new centrifugal short circuiting devices, new rocker arm and brush holder assemblies with brushes. They are dynamically balanced, fully tested, ready to install. Get them now from your Wagner distributor. Name on request. M47-26

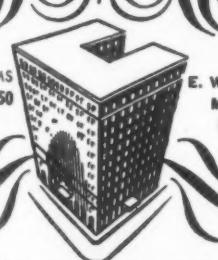
Wagner Electric Corporation

ESTABLISHED 1891

6471 Plymouth Avenue, St. Louis 14, Mo., U. S. A.

ELECTRICAL AND AUTOMOTIVE PRODUCTS

350 ROOMS FROM $2.50



E. Wahl Simons Managing Director

TOPS IN ST. LOUIS

Ideally located in the heart of St. Louis two short blocks from the Union Station and in the center of the Wholesale District . . . Preferred, always, by experienced travelers because of its outstanding advantages—Every room with private bath and shower and circulating ice water . . . Superior accommodations at ordinary rates . . . Visit our beautiful Marine Dining Room for the finest of meals, economically priced.

HOTEL CLARIDGE

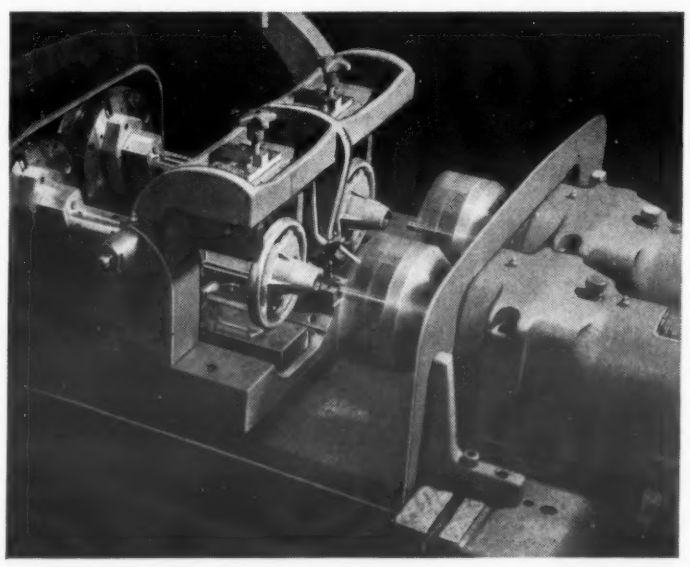
LOCUST ST. AT EIGHTEENTH

Free Parking

Freezing Facts by Super

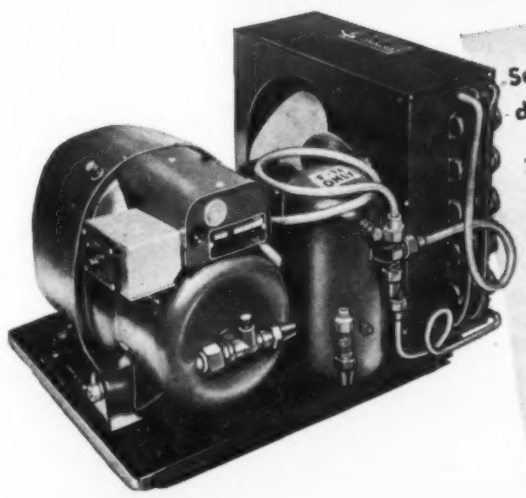
The truth about twins!

More than 100 pair born every day! Odds are about even on any combination of sexes. Average 32.6% both girls, 33.4% both boys, 34% one of each. Only 25% of all twins are identical.



"Identical twins" by the hundreds are turned out each day by this automatic boring machine in the Servel Supermetic plant. It machines seven distinct surfaces at one time to tolerances within two or three ten-thousandths of an inch!

High-precision automatic machining helps make each Servel Supermetic the "identical twin" of every other model of the same make . . . another reason for the uniformly high performance of all Supermetics. Send for free copy of "Servel Supermetic." Address Servel, Inc., Division ER, Evansville 20, Indiana.



Servel's new "Supermetic" condensing units will serve dealers and fixture manufacturers in every vital field:

1. Store Fixtures
2. Milk Coolers
3. Home Lockers
4. Beverage Coolers
5. Vending Machines
6. Room Coolers
7. Farm Freezers
8. Water Coolers
9. Industrial Cooling
10. Vehicle Refrigeration

Servel SUPERMETIC

Intensive Sales Training Schools Started By Typhoon for Air Conditioning Dealers

BROOKLYN—A series of regional sales schools on air conditioning is being held in key cities throughout the country by the Typhoon Air Conditioning Co. of Brooklyn. In a brief concentrated program, these courses cover the major aspects of self-contained air conditioning units for Typhoon dealers and salesmen.

As outlined by James F. Dailey, president, the purpose of these schools is to provide more intensive training in selling, installation, and maintenance, enabling Typhoon distributors to render better service to customers and giving salesmen the added confidence that comes from authoritative information.

The curriculum, prepared under the supervision of Murray Kabili, chief engineer, includes practical instruction in everyday problems which face the air conditioning distributor.

A mobile instruction staff, headed by Don V. Petrone, sales manager, moves from city to city as schools are conducted in each area. Modern visual education aids are being utilized in conjunction with this program and each student is awarded a diploma at a banquet ceremony upon graduation.

The first school in this chain was recently completed at the Hotel Belvedere in New York City and was attended by Typhoon dealers and salesmen from as far south as Baltimore, and as far north as Ottawa, Canada.

The following Typhoon distributors and their sales representatives attending the school, who received diplomas from James F. Dailey, president, included:

Frank Korkisch, Grant Sheldon, Warren Creech from Boswell-Burke Co., Hyattsville, Md. Clarence Adler, Adolph Sugar, Henry Arnhold, Edward Yancoskie, Herman Malmaud, David Cohen, Joseph Segall, John Herrmann from Trilling & Montague, Philadelphia. William Dupree and L. Pendleton from Quinn Engineering Co., New York City. John DiSalvo, Stuart Rosenberg, Harry Arthur, Gerald Svatos, William Marel, William Hoff from Thompson-Hill Air Conditioning Co., Brooklyn.

Isador Rose, John Prentiss, Philip Life, James Hope from Stuart Aire, New York City. Leonard Morris, Martin Goldsmith from Five Towns Refrig. Co., Cedarhurst, L. I., N. Y. Tim Rosen from A.C. Refrigeration, Montreal, Canada. Francis Bell, from Kooleraire Cond. Co., New York City. Seymour Kahn from Kadar Air Cond. Co., New York City.

Robert Yellin from Rex Pump Co., Hartford, Conn. Paul Lorence of Capitol Refrigeration Co., Albany, N. Y. Edwin Maier from The Howard Co., Paterson, N. J. Walter Jones from Refrigeration Sales & Service, Raleigh, N. C. Sheldon Morgenstern from Armo Cooling & Ventilating Co., New York City. Gerald Sayers from Complete Refrig. Supply, New York City.

E. J. Connell from Industrial Refrig. Ltd., Ottawa, Canada. Claude Brooks and L. Pratt from U.S. Air Cond. & Refrig. Co., Baltimore. E. Fleischer from Metropolitan Air Cond. Co., New York City. William Pond from Heating & Cooling, Plainfield, N. J. Arthur Farr, Cleveland.

Grant To Add Conditioning

LINCOLN, Neb. — An $182,000 alteration project on the W. T. Grant Co. store building here will include a $70,000 air conditioning and ventilating system.

Worthington Appoints Detwiler Works Mgr. Of Holyoke Plant

HARRISON, N. J.—E. M. Detwiler, assistant works manager of the Buffalo Works of Worthington Pump & Machinery Corp., has been appointed to the position of works manager of the Worthington Holyoke, Mass. works, headquarters for production of Worthington air conditioning equipment.

E. M. Detwiler

Detwiler succeeds Herman J. Schorle, who resigned his position with Worthington recently.

Detwiler has been associated with Worthington since 1929. He joined the Buffalo organization as plant engineer, and has successively served as standards supervisor, industrial relations supervisor, and assistant works manager, according to the Worthington announcement.

Cooling Contract Let For Louisiana Dairy

NEW ORLEANS—Mayer Godhaux has received the contract for installing a 37-ton air conditioning system in the new plant of the Louisiana Creamery Co., being built at 2400 Plank Rd., Baton Rouge. The low bid was $19,594.

Code on Attic Fans Suggests Requirements For Satisfactory Installations In Homes

DETROIT—Basic requirements for satisfactory installations of attic fans are outlined in detail in a code which has been prepared by the Propeller Fan Manufacturers' Association here.

Such topics as the location of the fan, type of fan, and operating characteristics, desirable capacity, methods of installing and locating discharge vents, and operational suggestions are among the items covered in the code.

Quiet operation is listed as a major requirement of the fan itself, and the fan should deliver not less than 75% of its free air c.f.m. rating when operating against pressure up to .10 in. of water head.

While stating that no definite figure can be set up for the number of air changes per minute that should be provided, "practice and experience have determined, however, that in 95% of the cases in the extreme south a net air change of once a minute is satisfactory, while for locations farther north it is enough to change the air once every two minutes," says the code.

Air velocities through the ceiling grille or shutter should not exceed 700 to 800 f.p.m. to minimize air noise and static head, it is also stated.

"Attic installations using motor ½ hp. and above should be fed by separate circuit from the main service panel. The contractor shall provide a fused disconnect switch in the hall or other easily accessible location.

"The Underwriters Laboratory Inspection Service requires that automatic means be provided for cutting off fan and closing ceiling opening in the event of fire," the code continues.

"A fusible link set to open at 135° F. is recommended for this purpose and is installed in the air stream preferably on the suction side of the fan so as to operate a cut-off switch in series with the fan motor.

"Where the installation includes flap or trap door, the fuse releases it and closes the ceiling opening. If automatic shutters are used, they close of their own accord as soon as fan stops."

(Complete text of the attic fan code appears on the opposite page.)

Chicago Group Buys Control of C. A. Dunham Co.

CHICAGO—A change in ownership of the C. A. Dunham Co. here, manufacturer of brass specialties and heating equipment, has been announced by H. S. Marshall, president.

A group of Chicago businessmen, including members of the Dunham operating and sales organization, have purchased the interests in the company formerly owned by the estate of the late C. A. Dunham, he said.

Dunham, founder of the company, had been inactive in the business since 1944 due to ill health.

Marshall, who has been president of the company for the past two years and who was executive vice president prior to that time, stated that no change in personnel or policy will result from the sale or is to be anticipated.

The firm engineers and manufactures brass specialties, heat control equipment, condensation and vacuum pumps, convector radiation, unit heaters, traps and valves, baseboard convectors, and power ventilating equipment..

Factories are located in Marshalltown, Iowa; Michigan City, Ind.; Toronto, Ont., Canada; and London, England. Distribution is mainly through some 70 sales engineers in the United States and Canada.

Conditioning Firm Formed

DALLAS, Texas—Dallas Air Conditioning Co., 2809 Canton, a partnership between S. Y. Guthrie and Marvin L. Brown, has been reorganized and incorporated with Guthrie as president, Brown as vice president, and Fuller C. Bray as secretary-treasurer.

The firm, exclusive distributor of York equipment, operates as an air conditioning, heating, and refrigeration engineering concern.

FOR PEAK PERFORMANCE in '48... use SPORLAN throughout!

With a complete line of Catch-Alls... Solenoid Valves...Thermostatic Expansion Valves ...Refrigerant Distributors and Strainers to choose from, you can order Sporlan products throughout for any commercial refrigeration or air conditioning installations you have in '48, direct from your wholesaler. He also carries the famous Sporlan Solenoid Pilot Control, which will save you money 3 ways on any job requiring solenoid valves larger than 10 tons. See him at once and learn what peak performance really means when you use Sporlan throughout.

SPORLAN CATCH-ALLS 1/3 Ton, 1/2 Ton 1 Ton

SPORLAN STRAINERS TYPE 4000

SPORLAN SOLENOID VALVES Type 62

SPORLAN SOLENOID PILOT CONTROL

There is only one style and size..will out-perform any regular solenoid valve over 10 tons capacity . . . costs less..cheaper to install

Type "G" SPORLAN THERMOSTATIC EXPANSION VALVES with Selective Charges
SPORLAN "C" CHARGE for suction temperatures ABOVE zero
SPORLAN "Z" CHARGE for suction temperatures BELOW zero

Remember, too... that only SPORLAN offers you Thermostatic Expansion Valves with Selective Charges

The complete line of SPORLAN PRODUCTS will be on display in Booths No. 219 and 221 at the 5th All Industry Refrigeration and Air Conditioning Exposition
CLEVELAND PUBLIC AUDITORIUM • JAN. 26 to 29, 1948

SPORLAN VALVE COMPANY
7525 SUSSEX AVENUE • ST. LOUIS 17, MISSOURI

A New Better Different

SEE US AT CLEVELAND BOOTH 125

COOLER CARBONATOR
SELF-CONTAINED FOR A VARIETY OF APPLICATIONS

● The famous Heat-X-Cast Aluminum Cooler now incorporates a carbonator . . . and like all other Heat-X equipment . . . is compact, simple, efficient and rugged. Result: a unit with many advantages for soda fountains, counter dispensers, vending machines and other applications.

HOW IT WORKS: Water entering the casting is cooled and then alternately with CO_2 gas enters the mixing chamber in the lucite carbonator head. Water and gas pass through atomizing orifice holes, and stainless steel wool permitting absorption of the gas. The carbonated water level in the bottom of the shell controls the water pump through a floatless relay.

Compact pump, motor and relay in one small unit.

THE HEAT-X-CHANGER CO., INC.
415 Lexington Avenue, New York 17, N.Y. Brewster, N.Y.

Text of Attic Fan Code Set Up By Propeller Fan Mfrs. Assn.

1. Geographical Variations in House Structures.

Wide differences in the types of houses in northern and southern climates must be noted in considering attic ventilating installations.

The majority of dwellings in northern climates have either open attic spaces or flat roofs with no free attic space.

In houses with open attics, the fan should discharge through an existing window or through an opening provided for the purpose either in an end wall or in a dormer in the sloping part of the roof. In either case the air is discharged directly to the outside, the attic acting as a plenum chamber.

In houses with flat roofs, it is necessary to provide a penthouse, with the small space between room ceilings and roof acting as a plenum chamber.

Openings with grilles should be located in the proper places to provide suction openings for fan.

In southern climates, the majority of houses have unfinished attic spaces in which the fan unit can be located to discharge to the outside through suitable openings in attic walls.

The above types of houses cover broadly the problems to be met in attic fan installations, and houses of both general classifications are located in both the north and the south.

2. Location of Ventilating Unit.

Fans which exhaust directly to the outside from the attic space should be located so that they discharge with and not against the prevailing wind.

Fans which exhaust into the attic from the space below should be located over a central hall so as to be as nearly as possible the same distance from all the rooms to be ventilated. Where no hall is available, the same applies to any room that may be selected instead. Care should be exercised to see that the discharge from the fan is as far as possible from adjacent walls, chimneys, etc. A minimum distance of six to eight feet should be maintained if possible.

3. Type of Fan Unit and Characteristics.

The fan should have quiet operating characteristics, either belted or direct connected, mounted in a substantial frame and equipped with resilient mounted motor or other form of shock and sound-absorbing construction.

When operating against pressure up to .10 in. of water head the fan should deliver not less than 75% of its free air c.f.m. rating. .10 in. static pressure is the maximum head anticipated if the installation is made in accordance with this code. This means that an effective air movement of at least 75% of the free air c.f.m. rating of the fan would be drawn through the house for ventilating purposes.

4. Air Changes per Minute.

No definite figure can be set up for the number of air changes per minute that should be provided. The rate of air change depends not only on the climate and locality but also on the individual preference of the used. Practice and experience have determined, however, that in 95% of the cases in the extreme south a net air change of once a minute is satisfactory, while for locations farther north it is enough to change the air once every two minutes.

Dividing the gross cubic contents of the house by the free air delivery of the fan in c.f.m. will give the number of air changes which the fan will provide per minute.

Example:

Gross cubic contents of an 8-room house in the extreme south is 10,000 cu. ft. Select a certified fan rated to handle 10,000 c.f.m free air delivery. The unventilated portions of the house will compensate for the net air losses due to static pressure on the fan of .10 in. and a net air movement of not less than 7,500 c.f.m. may be expected.

Air velocities inside the house will vary according to the number of openings through which air is drawn and the relative locations of these outlets and the ceiling grille. The occupant can regulate to suit requirements by adapting the various combinations of opening to suit his comfort.

5. Air Velocities Through Grille and Pan Unit.

Air velocities through the ceiling grille or shutter should not exceed 700 to 800 f.p.m. in order to keep air noise and static head as low as possible. Since the average velocity of the air leaving the fan ranges from 1200 to 1400 f.p.m. we can establish a rough ratio for ceiling grille or shutter area to fan orifice area of approximately two to one.

This ratio is based on a grille opening at 84% of the gross area. Grilles may be either of notched wood ("egg-crate") construction with 3 in. square openings or expanded metal with 1½ in. x 3 in. diamond mesh and are located in the ceiling.

6. Attic Discharge Vents.

The most important factors to consider when providing discharge vents in unfinished attics are the correct area and location. Unless structural difficulties interfere there should always be a number of discharge vents rather than a single large one.

Since the velocity through such an opening should not exceed six or seven miles per hour, a slight head wind might, to a great extent, nullify the effectiveness of the installation. If a number of openings are employed at different points of the compass, a head wind from any single direction has little effect on the performance of the fan.

Vents in the ceiling of a porch whose roof forms part of the attic space are particularly valuable since they discharge downward and are relatively free from back pressure due to head winds.

To keep out birds, all discharge vents should be covered with ½ in. mesh hardware cloth. This decreases the net area of the discharge vents by 20%, and the contractor should allow for this when figuring vent openings.

Discharge vents should be of such size as to keep the velocity through the vent from exceeding 400 to 700 f.p.m.

Example:

A fan of 10,000 c.f.m. free air capacity should have discharge vents with a minimum net area of 20 sq. ft., or 24 sq. ft. if covered by ½ in. mesh hardware cloth. In the same example, wooden louvre vents should have a gross area of about 30 sq. ft. and fixed metal louvres 25 sq. ft.

If mosquito screening is required, all discharge vents should be double the size already recommended. Do not use a mosquito screening if possible to avoid it, as it clogs up with lint and dust and needs frequent cleaning. To sum up, types of discharge vents include (a) side wall louvre openings; (b) soffit outlets; (c) outlets between rafters; (d) porch vents; and (e) roof ventilators.

7. Fan Housing and Plenum Chamber.

Fan housings or plenum chambers are of two types: (a) prefabricated and (b) tailormade to fit the job. Each has its advantages.

Prefabricated plenum chambers are usually the product of careful design and engineering on the part of some responsible company. The prefabricated type meets the requirements of 90% of the installations in unfinished attics. The special cases where this type is not suitable, such as finished attics or penthouse installations require tailormade installations to fit conditions.

Prefabricated plenum chambers should be constructed of sound-deadening material supported on skeleton wooden frame. Fabricated steel plenum chambers should be lined or coated with sound-deadening material and so constructed as to be free from vibration. The fan should be located at least one diameter from the grille opening so as to be invisible from below to minimize fan noise.

If sound-deadening material is provided between the fan casing and plenum chamber, a canvas throat connection is not necessary. Otherwise the connection between plenum chamber and fan casing should be #10 canvas and not less than six inches long.

The top of the plenum chamber may be horizontal or may slope down from the fan, but in no case should the cross section be reduced so much that it causes resistance to the air flow.

Automatic ceiling shutters may be installed instead of a mechanically operated flap door, operated by means of rope and pulley.

When an automatic shutter is installed over the grille opening, the vanes should open towards the fan in the same direction as the air flow. The shutters should cover the entire suction opening and be of such size as not to restrict the air flow.

The fan case should be mounted either on rubber shock absorbers or on a sound-deadening pad. The fan and plenum chamber are mounted on a platform extending over the grille and the plenum chamber should be as nearly air tight as possible so as to get the full benefit of fan capacity in the area to be ventilated instead of merely recirculating attic air.

8. Protection Against Winter Heat Losses.

Openings, whether louvres, porch grilles, soffit outlets, etc., should have removable or hinged covers of insulation board to cover them in the wintertime. The grille opening or automatic ceiling shutter should be provided with a similar cover.

An alternative is to insulate the attic floor with rock wool or similar insulation. The latter solution is the best from an operating standpoint because the fan can then be operated for a few moments in wintertime to freshen up the air in the house.

9. Electrical Installation.

Attic installations using motors ½-hp. and above should be fed by separate circuit from the main service entrance panel. The contractor should provide a fused disconnect switch in the hall or other easily accessible location.

The Underwriters Laboratory Inspection Service requires that automatic means be provided for cutting off fan and closing ceiling opening in the event of fire. A fusible fuse link set to open at 135° F. is recommended for this purpose and is installed in the air stream preferably on the suction side of the fan so as to operate a cut-off switch in series with fan motor.

Where the installation includes a flap or trap door, the fuse releases it and closes the ceiling opening. If automatic shutters are used, they close of their own accord as soon as fan stops.

All wiring should conform to the rules of the local Inspectors Bureau having jurisdiction.

As an additional precaution, fan motors may be equipped with automatic thermal cut-outs which prevent overheating of the motor from any cause and thereby eliminate the motor as a fire hazard, as well as protecting the user from a burned-out motor due to overload.

10. Installation and Operational Suggestions.

Oil motor and fan bearings according to manufacturer's direction card. When fan is first installed, check all bearings for lubrication.

Check rotation of fan and examine belt for tension and alignment.

Before starting fan, be sure that a door or window to the outside is open. The fan will pull soot down a chimney if there is no other way for the air to get in.

When the fan is first operated check for noise such as loose parts in fan and suction chamber as well as loose floor boards on attic joists.

After the first few weeks of operation check fan belt for tension and adjust if necessary, in accordance with manufacturer's instructions.

A thorough yearly inspection and oiling is recommended.

★ NUMBER FOURTEEN ★

Can You Qualify?

IF AIR CONDITIONING is ever to become the mighty industry it deserves to be, and if it is ever to prove profitable to manufacturers, we'll have to get it on a mass-production basis. Before volume production can get under way, however, manufacturers need some assurance that volume selling will be done by dealers.

At this stage of the game, volume selling on air conditioners can be realized only through specialty selling methods. And the dealer who has demonstrated that he is a specialty salesman will be a sought-after man.

Thus it is that sales agents for manufacturers of air conditioning equipment will be giving retailers the once-over during the next few months. Some of the attributes that these agents hope to recognize before they decide that a particular dealer is qualified to handle their line can be summarized as follows:

(1) Proved selling ability on specialty items.
(2) Financial stability.
(3) Reputation in the community.
(4) Appearance of store, especially with regard to effectiveness of display "know how."
(5) Interest in air conditioning, as evidenced by having installed a unit in their own place-of-business.

It's this last item which will disqualify most dealers from consideration—dealers who might otherwise be classed as being "in the groove." For, strangely enough, specialty dealers have been far behind other mercantile and service establishments in air conditioning their stores.

Drug stores? Yes. Jewelry stores? Indeed. Department stores? Notably. Men's furnishing stores? Yes again. Also, fur shops, restaurants, opticians, shoe stores, women's apparel stores, barber shops, bars, funeral homes, hotels, candy stores, banks, and offices. All these retail classifications rank high in the purchase of air conditioning equipment for the comfort of their patrons and for the stepping-up of their summer trade. But specialty appliance dealers have not caught up with the parade. (There are, of course, some notable exceptions.)

It should be noted that acquiring an air conditioning franchise during the next several months may not be easy—not nearly so easy as it has been in past years. Manufacturers have lost too much money on dealers who have abandoned the business after making a few weak passes at it. They are looking for dealers who will stay in the business, and who will really promote it. (And they are looking for dealers who will air condition their own stores—thus becoming fully sold on it themselves, and eager to demonstrate it properly.)

However, the specialty dealer should not air condition his own store because he hopes to become, thereby, more acceptable as an air conditioning dealer—desirable though a good franchise is beginning to seem. He should air condition his own store first of all because it will pay him, in dollars and cents. We'll have more to say about this in the next advertisement of this series.

This is one of a series of 26 advertisements dedicated to the progress of the entire air conditioning industry by

NEVINGER MFG. CO., INC.

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For COMPETENT PHOTOGRAPHIC SERVICE in the U. S. and Canada, *deal with professional photographic studios which display this emblem.*

Get new 1947 Classified Directory free. Lists competent photographers geographically and by name, with key to special services. A big help when you need photographs from out-of-town. A request on your letterhead will bring this 268 page booklet.

Write to Charles Abel, Executive Manager,
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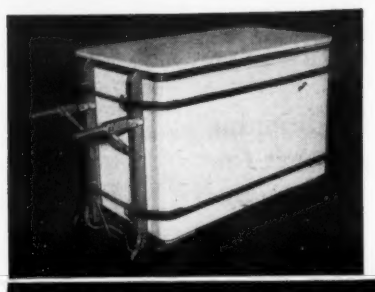
EXPERIENCED MANUFACTURER'S AGENTS

Men accustomed to annual earnings over $10,000, needed to establish distributorships and dealerships for America's finest line of self-contained under-bar beverage coolers. You'd be backed by extensive advertising plus promotional efforts of well-known, respected manufacturer. Please state complete qualifications.

Box 2603,
Air Conditioning & Refrigeration News



HERE IS JUST WHAT YOU'VE BEEN LOOKING FOR—An Easy Way To Handle Stoves, Refrigerators & Freezers

PROTECT YOUR MERCHANDISE WITH
THE ROLL-OR-KARI DUAL TRUCKS

EQUIPPED WITH THE NEW WEB-LOCK AND TIGHTENER.
Patented Step-On Lift. Folding Handles.

WRITE TODAY FOR PRICES AND FULL INFORMATION
1000 LB. CAPACITY
SHIPPING WT. 40 Lbs.

THE ROLL-OR-KARI CO.
MANUFACTURERS
ZUMBROTA • MINNESOTA

WHICH WAY DID THOSE FREEZER SALES GO?

Avery Engineering Co.
Cleveland, Ohio

Editor:

"Which way did they go?" That seems to be the query of the manufacturer distributor and dealer when you talk about freezer sales. What became of the pet of the post-war planners who put everybody in the freezer business even though they had no previous experience in refrigeration. What became of the prospects? "Which way *did* they go?"

A refrigerating machine is in itself a very complex mechanism, but a complete low temperature freezing unit is even more so as it must include the low side, controls and cabinet. Many freezers were put on the market that were almost perfect, but some very minor failure was responsible for the loss of valuable and carefully hoarded food.

These manufacturers simply had no previous contact with refrigeration problems, and hence no respect for them, and did not realize the importance of the product. Many are now out of business, and unfortunately some dealers with them. They certainly had a chilling effect on the general freezer market which began to cool anyway as soon as rationing was discarded.

It isn't smart any more to boast about "a half a beef" in your freezer. The prospect now will wait until he is sure all the kinks are out and the freezer is really dependable. He *can* wait.

When good dependable freezers came on the market they were displayed next to the junkers, and in so doing the good name erected an aura of respectability that helped the sale of the poor product. The freezer manufacturer, the good one, the name that comes from the electric refrigerator business or the ice-cream cabinet business is entirely too anxious to get wide distribution. Any one can get a dealer franchise, no matter what kind of business he has, appliance, store, garage or plumbing. Maybe he sells other makes or has no connection at all with refrigeration. Again the good name gives this dealer the "benefit of clergy."

Some dealers got loaded up with easily financed floor stock, then got scared, cut the price and got terrified when they found they couldn't move *any* make at *any* price, even below cost! Cooling prospects got cooler and more scared. Manufacturers, why do you do these things? We've seen it in the early days of the electric refrigerator and then more recently in the room cooler racket.

Entirely too much pressure is put on the dealer to load up on floor merchandise. The electric refrigeration industry left in its wake many broken dealers in the late 1920's and we will have the same thing now if these freezer dealers have no other lines to keep them in business. The worst feature is killing the enthusiasm of the *entrepreneurs* who have the initial aggressiveness and pioneering spirit. The more careful and conservative are left, but sales promotion suffers.

In many cases the freezer display will spoil its own sale. A *food* freezer should have attractively packaged *food* in it. In season game and special items can be displayed. Frozen baked goods and canapes are very attractive. What do you find? Printed matter, boxing material, dirty damaged packages, or just plain nothing! It seems to me the manufacturer must insist on a good live display or pull his product. Better to have fewer dealers and better stores. It is too easy to scare off the half interested prospect with poor displays.

Too few salesmen and proprietors or dealerships *use* the freezer in their own homes. "If it isn't good enough for the home folks it isn't good enough for us." How can you instill real desire in the prospect if you don't have a sincere first hand knowledge of the values of the home-food-deep-freezer? It is a simple fact that the user of the freezer is its best salesman, so let's start at home. We suggest special effort and inducement if necessary to get the dealer and his sales force to *use* the freezer.

It is time we laid a few cards on the table about the *quality* of frozen foods. Frequently the top packages in the display of frozen food at the store have thawed and refrozen. The smart housewives tell me that they always pick the package from the *bottom,* but of course any wise storekeeper can beat that. All he does is shuffle his stuff around and he gets rid of everything.

Refrozen food is pretty dull. There is too much of it. That is a problem for the processor of frozen food, but certainly affects the acceptance of frozen foods, and the desire for a freezer at home.

That seems sufficient at the moment as a bill of complaints. The wonder is that the freezer business has gone as far as it has. It must be inherently sound and will survive in spite of the handicaps imposed by its well meaning but half hearted friends. What's to do?

1. Change the name! Why not *"Electric Freezer."* Use the manufacturer or trade name but identify *all* products as *electric* freezers. Electric refrigerators, dishwashers, ranges have blazed the trail, in fact have paved the road. Why be sentimental about this nomenclature? Electric freezer is an honest and simple name.

"Home freezers" could be extra cold "room coolers." "Deep Freezers" aren't *deep* any more. "Food Freezer" implies the inferiority of cold storage foods. "Electric Freezer" has character, prestige and will make friends easily. Within a few years we'll just say "Freezer."

2. Insist that no inferior product gets on the market. If necessary the dependable manufacturer who expects to say in should buy out or trade out and scrap all the orphan junk that is in the home or still on the shelf. That's not altruism, that's self preservation.

3. Watch dealer stocks and don't overload him on floor plan. Discourage cut price offerings. Prices should either be reduced across the board by the industry or left alone. Cut prices in legitimate merchandise destroys confidence.

4. Insist on clean, live, displays. Jerk the franchise from the dealer that won't "keep it clean."

5. Encourage salesmen and dealer personal use. Special prices or discounts can be offered if necessary for this purpose.

It is sad but true that most dealers or salesmen want to wait until they have made a lot of sales before they begin to consider the product for themselves. On freezers we should do everything possible to get friendly usage, and quick!

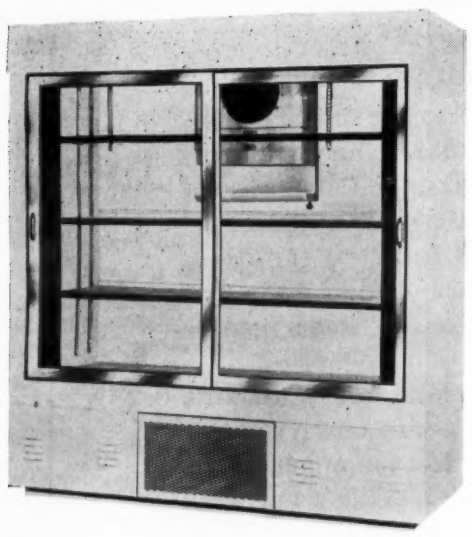
6. Watch the display of frozen foods and help educate the storekeeper to keep it frozen. Use up at home, anything that melts down in the store. If used promptly it's all right. *Never* refreeze.

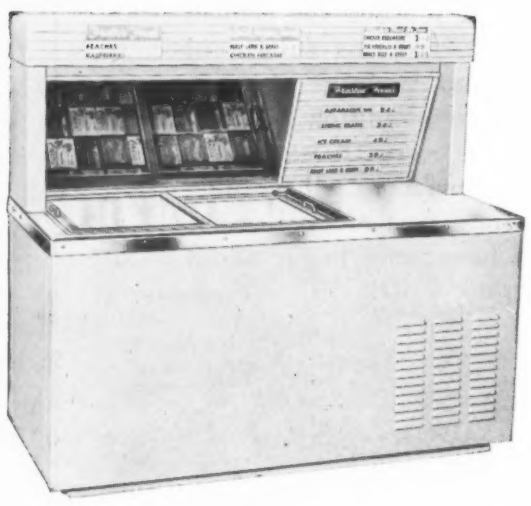
This is not a complete list of do's or don'ts but it seems possible the flight may return. We know *which way* some of 'em went! Watch out for the singles.

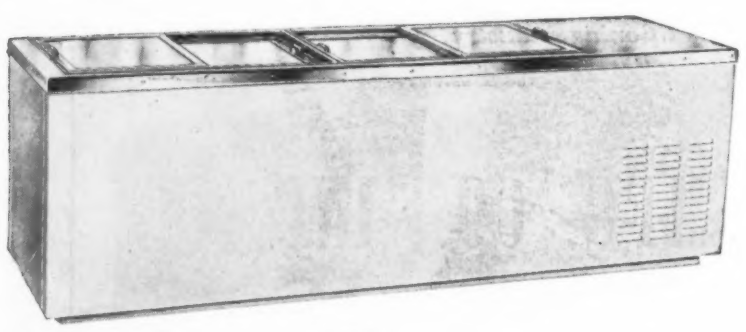
LESTER T. AVERY.

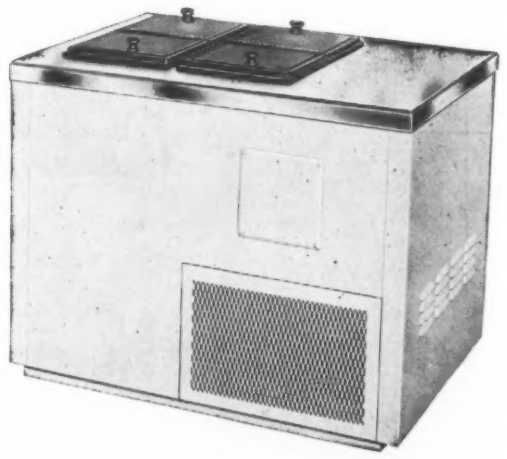
The **FRANKLIN LINE**

Appearance
FOR *Performance*
Dependability









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Micro-Analysis of Frozen Foods May Cast New Light On Process of Freezing

ATLANTIC CITY, N. J.—New information on the subject of freezing foods may be brought to light if the new method of microscopic analysis of frozen foods, which was publicly presented at the annual meeting of the American Society of Refrigerating Engineers here, is employed in future research.

Developed by J. M. Lebeaux of the University of Texas, this new approach employs a polarizing microscope to examine frozen food specimens, the polarizing action being claimed to give a positive indication of the presence, shape, and size of ice crystals and their effect on the cell structure of foods.

Declaring that this method treats foods as geological specimens. Lebeaux pointed out that food is isotropic and polarized light passes through it unchanged.

"Anything that is crystalline in structure, however, will affect the polarized light and show up in a definite color pattern. Thus ice, being crystalline, will show up in these patterns and we can tell just what is ice and that which is not," Lebeaux said.

This, he added, represents a considerable advantage over conventional methods of microscopic study of ice formation in food. The ordinary microtome employed in preparing slides was likewise abandoned in favor of a special plane claimed to insure the cell structure's being undamaged in preparation of slides for analysis under the microscope, Lebeaux stated.

All the work of preparing slides and examining them was done in a cold room maintained at 0° F., so the studies should represent the actual conditions of the food in its frozen state, Lebeaux averred.

Just what conclusions may ultimately be reached as the result of this method of study, Lebeaux hesitated to say. This may throw more light on the three theories of what happens to food when it undergoes "slow freezing," he believes. These theories are:

1. Cell puncture theory, which holds that as food is frozen slowly ice crystals form and grow larger and larger until the cell wall has been punctured.

2. Osmotic pressure theory, which holds that "when you freeze any solution water freezes out, increasing osmotic pressures and drawing in more water which also freezes until equilibrium is reached.

3. The precipitation of irreversible colloids caused by the lowering of the temperature of the food and/or freezing.

Frozen Beef, Still Palatable After 40 Years, Proves Value of Packaging

ATLANTIC CITY, N. J.—The recent discovery of several frozen beef hams which had accidentally remained in freezer rooms for 40 years at Swift & Co. and were still palatable points up the importance of proper packaging in frozen food storage, it was agreed when studies of the beef were presented before the annual meeting of the American Society of Refrigerating Engineers here.

Originally the beef hams had been placed in storage by Dr. W. D. Richardson, then chief chemist of Swift, who had them packed two to a can in hermetically sealed tins and then placed in a freezer operating at 12.5° F. Later the temperature was reduced to 0° F.

The hermetic seal on some of the cans had been broken, but others remained intact, declared Dr. J. M. Ramsbottom of the Swift research laboratories, who directed the studies which followed the discovery of these cans and presented the results at the ASRE meeting.

Those hams in cans which were still effectively sealed more closely approximated the qualities of fresh frozen beef, said Dr. Ramsbottom, who explained that the 40-year-old beef had been compared with fresh frozen beef for color, freezer burn, ice crystal structure, thaw drip, histology, microbiology, palatability, vitamin and protein evaluation, fat stability, and chemical analysis.

Generally, the deeper portions of the stored beef were similar to the fresh beef in color, histological structure, nutritive value, and chemical composition, according to Dr. Ramsbottom. The stored and fresh beef were about equal in tenderness and in flavor, but the fresh beef was preferred for texture and juiciness. The protein and vitamin content of the stored beef were about the same as the fresh, and the fatty portions of the ham were stable but rancid.

The life of stored frozen beef, concluded Dr. Ramsbottom, is dependent upon many factors: first, the package must be air-tight and the meat protected, secondly, it was only after they had removed about ½ in. of the outer tissues that the meat frozen for 40 years was comparable with fresh frozen beef, but he believed that if they could eliminate desiccation and oxidation by the right combination of freezing and packaging that beef could be stored for a considerable number of years.

Commenting on Dr. Ramsbottom's talk, Dr. M. E. Pennington said that the main lesson to be derived from these experiments is that a tight package is the primary determining factor in preserving the quality of foods frozen quickly and stored for a considerable length of time.

D. C. McCoy of Frigidaire commented that he believed that these experiments proved that there was very little gained by very low temperatures. Very low temperatures were economically impractical and completely unnecessary. The present method of quick freezing and storage at a steady temperature was considered sound.

Penguin Freezer Corp. To Make Low-Temp Cabinets

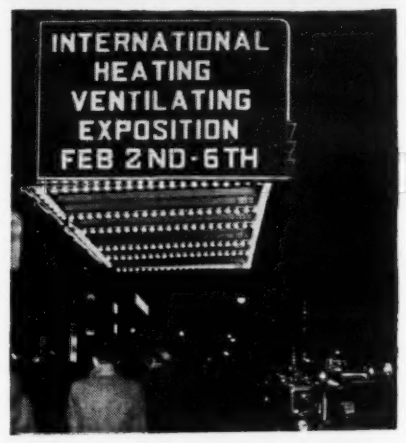
NEW YORK CITY—Formation of the Penguin Freezer Cabinet Corp. to manufacture low temperature refrigerated cabinets has been announced by Roger Cutler, secretary, in charge of sales.

The firm is currently in production on ice cream dispensing and hardening cabinets, frozen food display cabinets, home and farm freezers, low temperature reach-in cabinets, and full flooded plate evaporators for use in soda fountains and other low temperature applications, he said.

Eva J. Metz heads the firm as president. Irving H. Cutler is treasurer. The Penguin plant is located at 1010 East 73rd St. here.

"Many new and improved features in cabinet construction have been incorporated to make the Penguin product one that is specifically manufactured for a buyers' market with particular stress on quality," Roger Cutler declared.

Portals to Progress
. . . in AIR CONDITIONING - HEATING - VENTILATING



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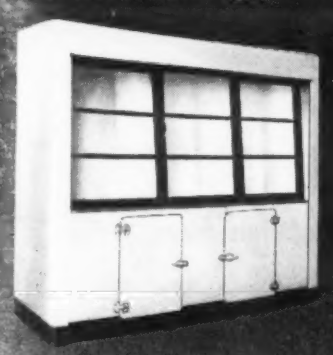

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(Left to right, around table)
RAY CHAMPION
Advertising & Sales Promotion Manager
JOHN UNGER
Service Manager
REX SANFORD
Treasurer and Office Manager
NJORD ZETTERLUND
Engineer in Charge of Electrical Design
MR. GANZER
ED FRYKDAHL
Engineer in Charge of Cabinet Design
RALPH SCHRANDT
Works Manager
PHIL BOURNE
Director of Purchasing

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REFRIGERATORS AND FREEZERS

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Fedderman Elected Interstate President

EL SEGUNDO, Calif.—L. Delford Fedderman was elected president of Interstate Engineering Corp. here, manufacturer of Revelation electric water coolers and water softeners, at a meeting of the board of directors.

Other new officers elected at the meeting are Frank E. Booth, executive vice president and treasurer; John E. Koster, vice president in charge of sales and secretary; and James S. Gallagher, vice president in charge of manufacturing.

New directors elected to the board include Fedderman, Booth, and Koster, Los Angeles, and Jerome Spanier, Chicago. John T. Webb, Denver; Harold W. Danser, Boston; and Hugh W. Darling, Los Angeles, were re-elected directors.

Typhoon Names Cherry To Regional Post

BROOKLYN — Appointment of Robert B. Cherry, Jr. as southeastern regional sales director of The Typhoon Air Conditioning Co., Inc., has been announced by Edward Garfield, vice president.

R. B. Cherry, Jr.

Formerly with the Gas Air Conditioning Division of Servel, Cherry will supervise Typhoon representation in Florida, Georgia, Louisiana, Mississippi, and South Carolina. He will make his headquarters in Atlanta.

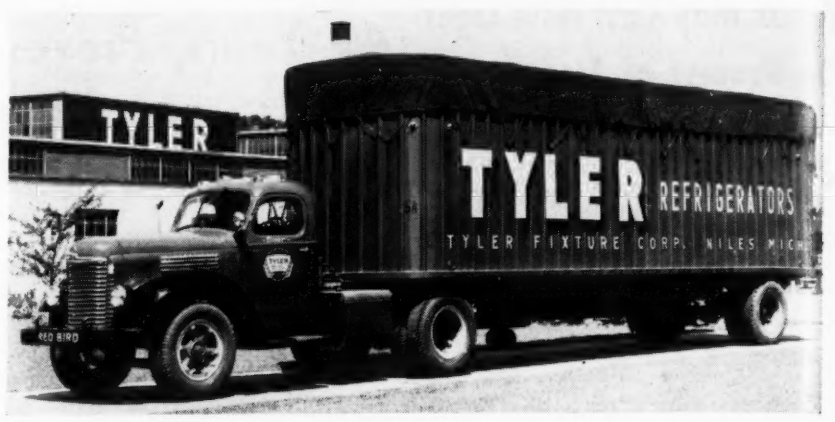
Timmerman Employes Get Trust Fund Statements

DAVENPORT, Iowa — Employes with more than two years service at the Midwest-Timmerman and G. J. Timmerman companies, Gibson distributor here and in Des Moines, were presented with trust fund statements, indicating that a substantial percentage of their 1947 earnings had been placed in their trust fund, at the organizations' annual Christmas and New Year party.

Employes with less than two years service were presented Christmas gifts by G. J. Timmerman, president. In addition all of the 55 employes present received gifts at the banquet table.

R. S. Motto, assistant general manager, served as toastmaster.

Custom-Built Trailer Speeds Deliveries



Fitted with a removable double-deck, this new trailer built for Tyler permits shipments of commercial refrigerators without crating except for loading skids and thus speeds deliveries and avoids the inconvenience of uncrating.

* * *

Special Truck Handles Commercial Refrigerators

NILES, Mich.—A 28-ft. custom-built trailer with a removable second deck and a full open top enables Tyler Fixture Corp. here to ship large commercial refrigerators without crating, except loading skids, and thereby save hours of delivery time.

The second deck can be slipped into place 60 in. off the floor to accommodate walk-in cooler sections in the upper compartment, according to Leslie Fischer, general traffic manager. Since the deck is removable, he said, it is possible to load low cases in the lower half of the trailer, walk-in sections above and higher refrigerators at the rear.

Thus, it was explained, the only crating required is the skid on which to move the cases on and off the truck.

"This means not only hours are saved, but that customers are not inconvenienced with sections of broken crates and splintered wood that they usually contend with after uncrating fixtures delivered in the usual manner," J. B. Hennion, sales promotion manager, pointed out.

The trailer "spells quick deliveries of commercial refrigerators when they are urgently required," he added.

Pulled with a heavy-duty International KB7 tractor, the trailer is eight ft. wide and 12 ft. high. It weighs 10,100 pounds and has a capacity of nine tons.

Role of Centrifugal Machines In Marine Refrigeration Disputed at ASRE Session

ATLANTIC CITY, N. J. — Great promise for centrifugal compressors for refrigeration and air conditioning of ships is held by S. W. Brown, chief engineer of Carrier Corp.'s marine refrigeration, but some of his beliefs were disputed by two commentators when he discussed the subject at the annual meeting of the American Society of Refrigerating Engineers here.

First tracing the historical developments of the centrifugal machine and fairly recent applications on board ship, Brown declared, "The trend has been for lower and lower temperatures. Today the temperatures required are so low that it is not practical to use single-stage "Freon-12" compressors without water jackets. It is advisable to use two-stage or centrifugal machines."

W. L. Keller, whose prepared comments were read by August Ulbert, said that he didn't agree with the applications suggested by Brown.

"Large machines for heavy, constant loads are all right, but this does not apply to ships. His comparison of centrifugal versus reciprocating machines is not fair."

And L. L. Westling of the Matson Navigation Co. commented that "simplicity in ship design is the most important factor. I'm glad to see Brown return to brine plants rather than direct expansion systems. Many of the wartime marine refrigeration installations required more attention from the engineers than the main propulsion machinery of the ships. Great simplicity in controls is one of the most important needs of marine refrigeration," he added.

Advantages of using "Freon-11" and a centrifugal machine on shipboard instead of "Freon-12" and reciprocating compressors were stressed by Brown, who claimed that "F-11" has the best "cycle efficiency" of many refrigerants.

"Excessively large" motors, several units, a "maze of piping connecting units and condensers, etc." and considerable space are required for a typical "Freon-12" layout, according to Brown, who declared that a centrifugal plant is much simpler and required much less room.

This amounts to a saving in space of as much as 33% over a conventional reciprocating system of comparable tonnage, he averred.

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New Method of Determining Moisture In Air Said To Be More Accurate, Simpler

By C. Dale Mericle

MILWAUKEE—A new method of determining the latent or moisture load in air conditioning which is claimed to be more accurate than previous methods was described for the Milwaukee Section, American Society of Refrigerating Engineers by H. W. Heisterkamp of the Bryant Heater Co. in a recent meeting at the Knickerbocker Hotel here.

"Most of us who have been figuring air conditioning jobs have been figuring the internal latent load incorrectly," declared Heisterkamp, who is manager of Bryant's air dryer division.

This difficulty was encountered, he explained, when Bryant first began installations of its air drying equipment and found that existing methods of determining latent loads were not accurate.

"For example, a large printing plant in Chicago was interested in a new rotogravure process. This process was first tested in a New Jersey laboratory, and satisfactory results were obtained with the installation of an air dryer working in combination with a refrigeration machine," said Heisterkamp.

"Then the equipment was moved to the Chicago plant and installed in a smaller room, but the equipment would not hold the desired humidity conditions except in very cool weather. We recommended installation of the next size larger dryer unit, and the system operated satisfactorily for a year, but then it lay down and died.

"No changes were evident in the system or the conditions, but it was finally discovered that the room was a wood frame structure and that the dryness inside the room had created cracks in the wood and allowed more moisture to come in. A good caulking job solved the problem."

He cited another instance of "excessive" moisture infiltration in a room lined with sheet metal (the joints being soldered) and fitted with refrigerator type doors. Extensive tests finally led to the conclusion that moisture was coming into the room through the sheet metal itself, said Heisterkamp.

"All building materials we use are porous, even steel, and it's also important to note that the workmanship on buildings is generally of much poorer quality than that in laboratories where moisture infiltration tests are made," he added.

Although the method of estimating moisture penetration as suggested by Bryant is based largely on the difference in vapor pressure between indoors and outdoors, Heisterkamp emphasizes that the vapor pressure difference is not the only factor involved, and further, that this method is probably not "the answer" but does represent a "start."

Moisture permeation is separate and distinct from air infiltration, and it is not possible to offset the permeation load by building up an air pressure within the space and rely on exfiltration of air, according to Heisterkamp.

For convenience, however, it is easier to think of the moisture coming in as so many cubic feet, or pounds, of air carrying with it a unit moisture load represented by the difference between outside and inside moisture conditions.

Based on its experiments and experience in the field, Bryant Heater, said Heisterkamp, has prepared tables and graphs giving formulas and multipliers to determine moisture permeation.

Fig. 1 shows the expected permeation through standard frame construction or an 8 in. masonry wall for a moisture difference of 35 grains/lb of air between inside and outside. The curve is expressed in air changes per hour plotted against the volume of space, the volume being directly related to the exposed surface.

This graph, for example, indicates an air change factor of 0.5 for a space of 40,000 cu. ft. with standard frame or 8 in. masonry construction at 35 gr./lb. moisture difference.

Table 1 gives multipliers for various degrees of moisture differences ranging from 35 gr./lb. up to 120 gr./lb. In Table 2 is shown the suggested multiplier for varying types of construction and vapor barriers.

To demonstrate how this data is used to determine moisture permeation, the following example was cited by Heisterkamp.

A room has 12 in. masonry walls painted with two coats of aluminum paint. Room volume is 22,000 cu. ft. Outside design moisture condition is 120 gr./lb., inside 40 gr./lb.

Fig. 1 gives an air change factor (at the 35 grain difference) of .58 for 22,000 cu. ft. Table 1 gives a multiplier of 2.05 for the 80 grain difference (120-40).

From Table 2 the multiplier for 12 in. masonry is found to be

$$\frac{8}{8+2} = .3$$

Table 2 also gives the multiplier of .75 for two coats of moisture-proof paint.

Thus the permeation estimate is

$$\frac{22{,}000}{14} \times .58 \times 2.05 \times .75 \times .8 \times (120-40) =$$

89,760 gr./hr.

(The number 14 converts cubic feet to pounds and should be used regardless of the actual density of air.)

Moisture permeation in thousand grains per hour can be read directly from the graph shown in Fig. 2 if the construction is of standard frame or 8 in. masonry.

In using this method, windows can be ignored provided they are sealed and caulked. Doors, which should be completely weather-stripped, must be taken into consideration, however. Add two times the door area for each time they are opened per hour. Expressed in grains per hour this is:

$$\text{Hourly openings} \times \frac{\text{door area}}{7} \times \text{moisture difference} \times \text{multiplier for moisture difference}$$

As an example, a 3 by 7 ft. door opened six times per hour with 100 grains moisture difference between inside and outside gives:

$$6 \times \frac{3 \times 7}{7} \times 100 \times 2.52 = 4{,}530 \text{ gr./hr.}$$

For air lock vestibules the standard door figure can be reduced one half.

It is desirable, continued Heisterkamp, to avoid permanent openings into a room, such as conveyor passages, but the moisture permeation can be reduced somewhat by installing a metal duct around the conveyor passage and extending it along the path of moisture travel as far as practical.

Consider that for a 35 gr./lb. moisture difference, moisture will travel at the rate of 300 ft./hr. for 1 ft. of travel, he stated. By applying the moisture difference multiplier, the moisture load from this source may be expressed in gr./hr. as:

$$\frac{\text{Area} \times 300}{14 \times \text{depth of travel}} \times \text{moisture difference} \times \text{moisture difference multiplier}$$

Example: 2 sq. ft. conveyor opening, 1.5 ft. extension in passing through room, 100 gr. moisture difference.

$$\frac{2 \times 300}{14 \times 1.5} \times 100 \times 2.52 = 7{,}210 \text{ gr./hr.}$$

Table 1—Multiplier for Moisture Difference

35 gr./lb.	1.0
40	1.11
50	1.35
60	1.58
70	1.82
80	2.05
90	2.29
100	2.52
110	2.76
120	2.99

Table 2—Multiplier for Construction and Added Vapor Barriers

Heavy masonry $= \frac{8}{8 + \frac{1}{2} \text{ added thickness}}$

Two coats moisture-proof paint	.75
Two layers edge-sealed moisture-proof paper	.67
Glazed tile	.67
¼ in. asphalt coating	.65
Sheet metal construction	.50

Note: Final multiplier must not be less than .50.

Moisture Permeation Determined by New Method

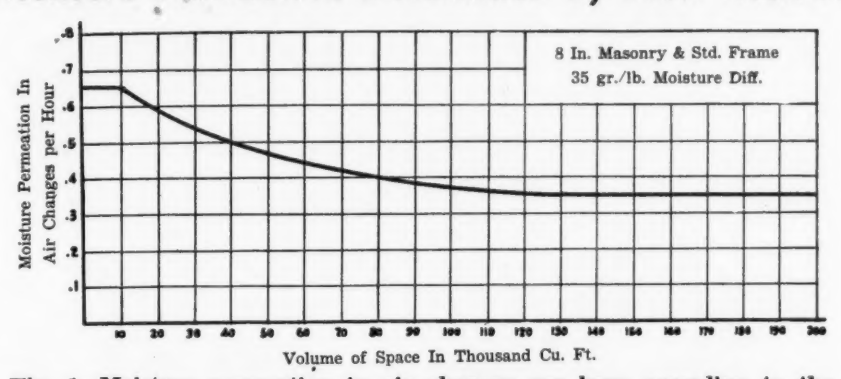

8 In. Masonry & Std. Frame
35 gr./lb. Moisture Diff.
Moisture Permeation In Air Changes per Hour
Volume of Space In Thousand Cu. Ft.

Fig. 1—Moisture permeation in air changes per hour according to the volume of space is indicated in this Bryant Heater chart when the moisture difference is 35 gr./lb. and the building is of 8-in. masonry or std. frame.

Chart Gives Moisture Infiltration Directly

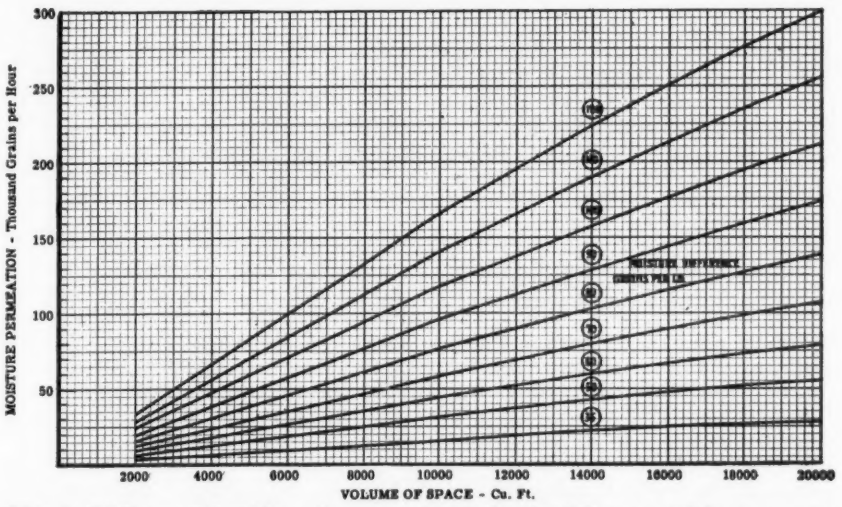
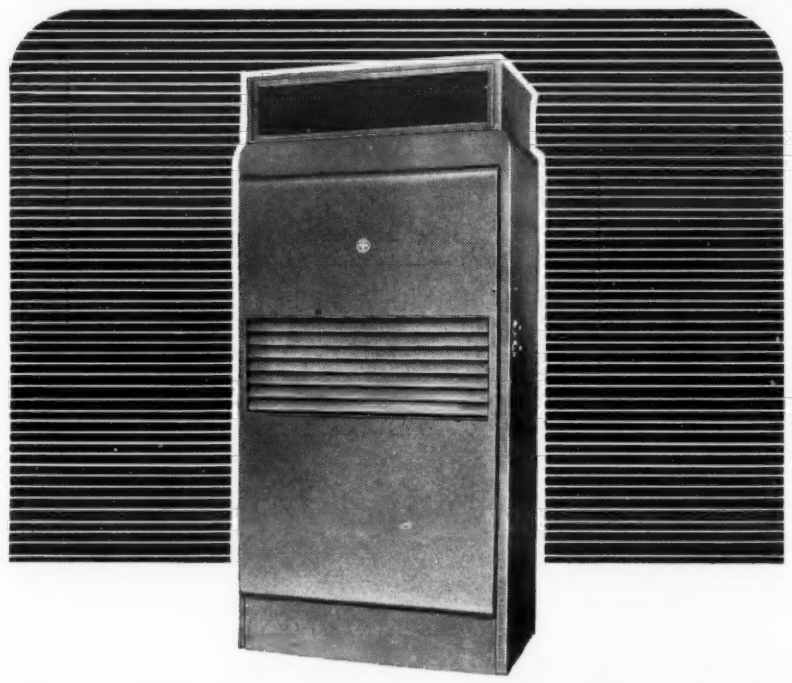


Fig. 2—If the construction of a space is of standard frame or 8-in. masonry the estimated moisture permeation in thousand grains per hour may be read directly from the chart, which shows space volumes from 2,000 to 20,000 cu. ft. and moisture difference ranging from 35 to 120 gr./lb.



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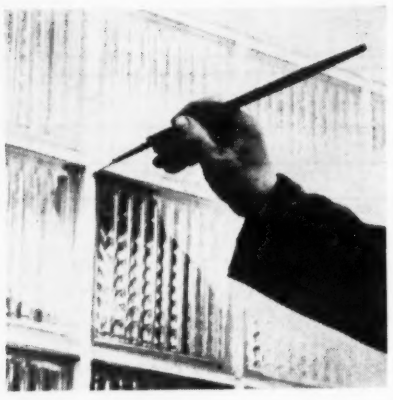
What's New



* * *

New Type Mortar Sealant Protects Glass Blocks

CINCINNATI — Specially designed for use on glass block, a new mortar sealant developed by the American Fluresit Co., Inc. will be available in limited quantities on the name "Klee Sealant."

Ordinary mortar, the company states, has been found unsatisfactory because it cannot form a good mechanical bond, and cracks develop from shrinkage of the mortar.

The new sealant is applied over the exterior mortar joints and forms a tight but flexible bond to the glass, expanding and contracting with the mortar and the glass without rupturing the film, it is claimed.

Frigidaire Packaged Unit Occupies Little Space

DAYTON, Ohio—A new 5-ton capacity packaged air conditioner, designed especially for stores, restaurants and business houses, is being produced by Frigidaire Division of General Motors, according to W. F. Switzer, commercial sales manager. Distribution to commercial dealers throughout the country is already underway, Switzer pointed out.

Occupying only 7½ sq. ft. of floor space or about half of that required by an ordinary office desk, the new packaged conditioner is completely self-contained. The refrigerating unit, electric motors, cooling coils, and fans are housed in a single steel cabinet.

Flexibility, low-cost installation and portability are principal advantages of the new packaged unit. These conditioners may be used in multiple to air condition an entire building, a series of floors, a single floor or any large area. On the other hand, a single unit will serve several office rooms, a department, or smaller sections of a floor. The conditioner can be used from a remote position by employing a simple duct system.

For winter operation, a heating coil can be added. All electrical, water and drain connections are grouped together close to the floor affording easy assembly or dismantling operations.

Frigidaire 5-ton packaged air conditioner.

Operation of the new unit is simple. A fan draws room air through the intake grille at the lower part of the air conditioning chamber. Two filters, 1-in. thick, remove dust, dirt, and pollen from the air before it passes over the Multipath cooling unit. A thermostatic expansion valve controls the flow of refrigerant.

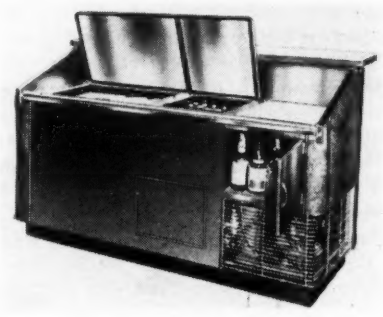
Effective use of the entire coil is made possible by the counterflow principle. The air and refrigerant flow in opposite directions. A staggered tube system sets up turbulence and affords better heat transfer.

Four removable air outlets with airflow deflector blades circulate the conditioned air from the removable hood at the top of the cabinet. The blower discharge is created by a 12-in. fan powered by a ¾-hp. electric motor. The fan speed has a 10-phase control. Both the fan and motor are mounted on rubber in a sound insulated chamber beneath the hood.

The condensing unit is mounted on vibration-absorbing rubber pads in a compartment that is insulated and is virtually sound-proof. It is equipped with a standard two-cylinder compressor mounted on twin water-cooled condensers connected in parallel. An automatic water valve regulates the flow through condensers in accordance with condensing pressures.

This unit is powered by a 5-hp. three-phase 220 volt electric motor. Operation is automatically controlled by a thermostat actuated by temperature of room air entering the conditioner.

Home Bar Incorporates Frozen Food Compartment



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PHILADELPHIA—A Home Club Bar that incorporates a frozen food compartment has been introduced by the Haldorf Mfg. Co. here.

The bar, designed for use in home recreation rooms, provides 12 cu. ft. of storage space divided into two refrigerated and one unrefrigerated compartments.

One refrigerated compartment maintains temperatures of from -20° to 0° F. It will hold up to 16 gals. of ice cream or 150 packages of frozen foods.

The other refrigerated compartment, holding to approximately 40° F., contains 3¼ cu. ft. of space for foods and beverages that require chilling only.

The unrefrigerated compartment occupies 3 cu. ft. of the unit and can handle up to 45 quart bottles. It can be locked.

The front and two sides of the Home Club Bar are upholstered with a quilted pattern of Masland Duran, a leather-like material that is stain, burn, and acid proof. The top is a solid piece of colored Formica. All trim and exposed metal sections are stainless steel.

Each of the refrigerated sections is equipped with a hinged lid that has a handle and lid prop for holding the lid open while loading.

* * *

Food Liquid Dispensing Faucet Dismantles Easily

NEWARK, N. J.—A new modern design sanitary faucet for general dispensing of all types of food liquids, has been announced by Economy Faucet Co., 12 New York Ave., Newark.

Chief among the features of the new faucet is the fact that it is easily taken apart which permits of complete and simplified cleaning. This feature meets rigid board of health sanitary requirements.

Other features of the new faucet are its finger tip control which is said to give a positive flow from a trickle to a full stream. A strong spring built in the faucet gives instant dripless shut-off. There is no twisting or turning of the wrist required to run the faucet on or off.

The new Economy faucet is available with ⅓ in. connections for application to any type of dispensing urn or other container. Head and shank or flange fitting can be adapted to meet most any liquid dispensing purpose or size of line.

Faucet bodies are available in stainless steel, chrome or brass, as desired. Each is equipped with an attractive modern handle of specially molded plastic.

Lenk Soldering-Iron Line Consists of 7 New Models

BOSTON — Featuring metal-clad heating elements, a new line of "super-deluxe" soldering irons has been introduced by Lenk Mfg. Co. here.

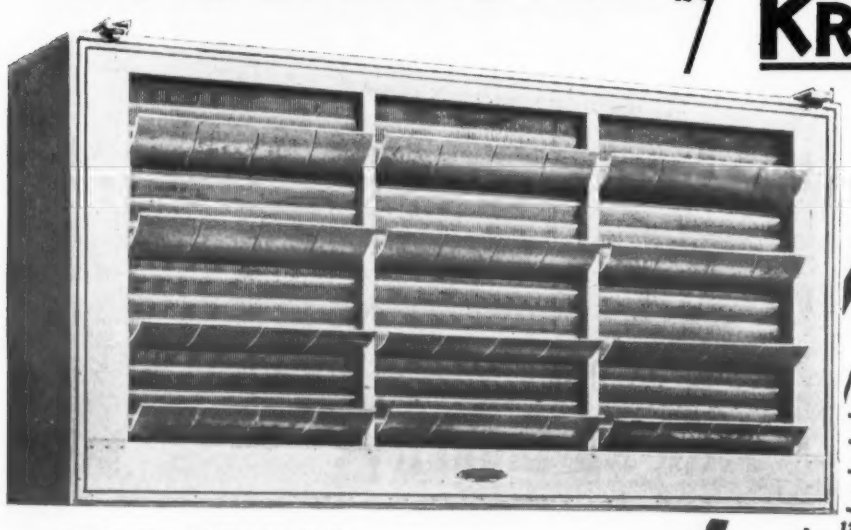
Fin-type heat dissipators to protect the handle are also a feature of the line, which includes seven models in all. Three models have standard tips and are offered in 75, 100, and 150-watt sizes.

Two models, 75 and 100-watt sizes, are fitted with "A" style radio tips, while two other models are offered with both standard as well as "A" style tips.

EXTRA LARGE

Capacities Now Available

COOLMASTER by KRAMER



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UNIT NO.	B T U 10 T D	Per Hour 15 T D.
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83	4140	6200
96	4780	7160
133	6640	9960
159	7950	11900
212	10600	15900
265	13250	19900
360	18000	27000
480	24000	36000
720	36500	54750

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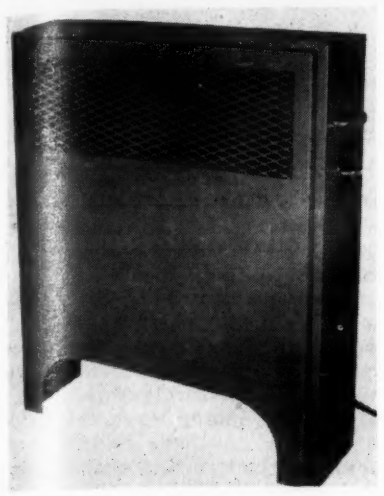
What's New (Cont.)



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Portable Electric Heater Controlled by Thermostat

ADRIAN, Mich.—A portable electric steam heater with solid copper boilers, all copper heat radiating fins, and with all heating elements encased in a copper tube is now being manufactured by the Adrian Production Tool Co. here.

Known as the Atom-Heat heater, the unit is claimed to automatically maintain desired temperatures with only a few degrees differential between ceiling and floor.

According to the company's brochure on the product, "Atom-Heat generates heat continually; but due to the thermostatic control, the electricity is shut off when the desired temperature is reached—automatically turns on again when a slight temperature drop occurs."

The steam radiator requires no water replacement because a patented feature seals in the water, the company declared. The unit is chemically treated and will not freeze in the coldest weather.

Atom-Heat plugs into any 110 a.c. or d.c. outlet and has no exposed wires. It is hermetically sealed and has no moving parts.

Tracked Hoist Can Handle Loads Weighing 500 lbs.

CHICAGO—A tracked ladder-like hoist for mechanically moving loads of up to 500 lbs. to a higher level has been invented by Harry Campbell, founder and president of the Campbell Equipment Co. here.

Called the Lad-E-Vator, the hoist consists of two aluminum ladder-like tracks that hold a four-wheel loading platform. These tracks come in 12 to 25 ft. units and can be put together to move loads up to a height of 40 ft.

At their upper end, the tracks curve over to deliver the load inside the working area. When two sections of track are used, the sections are extensible to reach the exact height needed, according to Campbell. He claims that the tracks hold the platform wheels so firmly that uneven loading does not affect balance. The platform remains level through the whole course of the movement.

A small gasoline or electric motor may be used to supply power. Loads can travel up to 80 ft. per minute, he said.

The operator at the bottom of the Lad-E-Vator has full control of the load as it moves to the top. If the unloading space isn't clear, he can hold the loaded platform at any point until he gets the "go ahead."

Thompson Adds 3 Models to Ice Cream Equipment Line

NEW YORK CITY—Emery Thompson Machine & Supply Co., 1349 Inwood Ave. here, announces the addition of three new models to its line of ice cream manufacturing equipment.

Featuring stainless steel exteriors these new models consist of a 5 gal. remote freezer, 5 gal. self-contained freezer, and all stainless steel exterior hardening cabinets.

Ultra-Cold Introduces Drink Dispenser, 2 Refrigerators

Ultra-Cold drink dispenser

* * *

Boxes Designed for Use In Apartments, Trailers

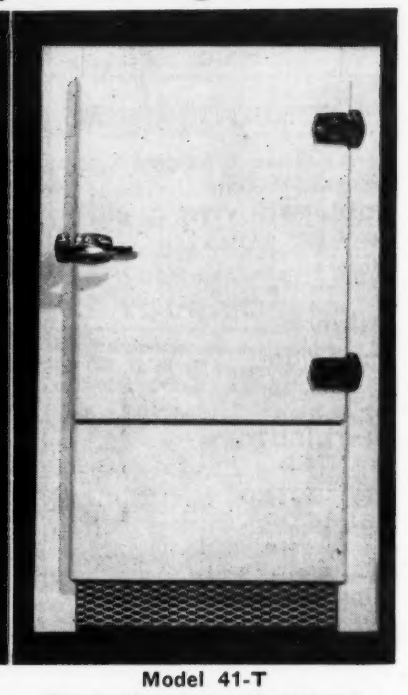
(Concluded from Page 1)

stainless steel ice-making compartment and thermostatic control.

The 41T 3½-cu. ft. trailer and built-in apartment house model is similar in design to the 4-ft. model. Major difference is that the sides and top of the smaller model have not been finished off.

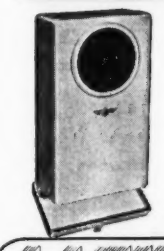
After 18 months of tests, Ultra-Cold's new model 5-G drink dispenser is now being announced. This refrigerates and agitates fruit juice and other types of drinks such as buttermilk, chocolate milk. etc., and tests have shown that it will keep orange juice fresh for 72 hours, the company claims.

Model 41-S
For apartment use



Model 41-T
For trailer or apartment use

Maximum EFFICIENCY • Minimum ATTENTION



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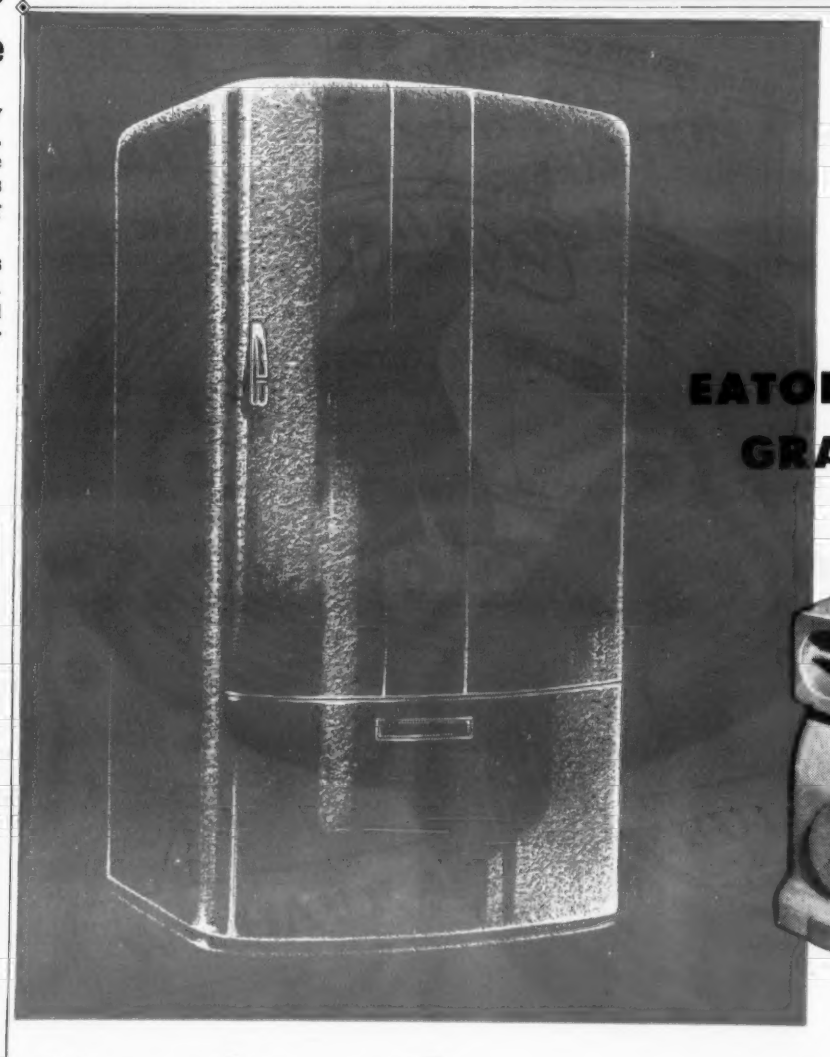
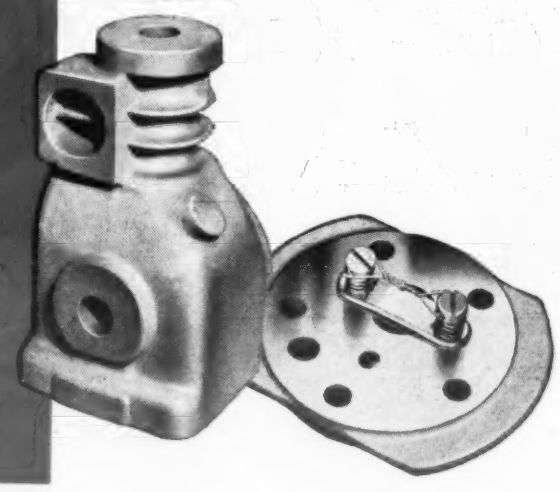


EATON PERMANENT MOLD GRAY IRON CASTINGS



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Refrigeration Problems

And Their Solution

By P. B. Reed

For Service and Installation Engineers

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

Copper Plating

Every refrigeration service engineer who has disassembled compressors that have been removed from methyl chloride or "Freon-12" systems, has noticed a peculiar copperish look to some of the parts. In mild cases it usually shows up first on the cylinder walls toward the top of the cylinder.

In some cases the cylinder walls, pistons, rings, valve plate and valves —both suction and discharge, appear to be made of copper or as if they had been plated with a smooth, dull copper finish. This same copper finish is found on piston pins, crank throws and mains, steel seal rings, babbit bearings and bushings, thrust washers, and in fact any finely finished steel or iron frictional surfaces in the compressor.

In advanced cases the copper builds up to considerable thickness. On discharge valves it is sometimes thick enough to be flicked off in flakes. On seal rings it is often the cause of the seal leaking. It is not uncommon for it to form to enough thickness on shafts, pins etc., to prevent proper lubrication and to cause the bearings to bind and "freeze."

This condition is known as "copper plating" and is a very common cause of compressor failure in systems using methyl chloride or "Freon-12." It also appears in systems using some of the other "Freons" and methylene chloride.

It can be removed only with considerable effort, by scouring it off with emery cloth, sandpaper, etc. It is usually necessary or advisable to replace valves, bushings, seal rings, or other small parts that are heavily copper plated. In attempting to remove the copper, the finely finished surface is often ruined or the size of the part is so much reduced that the fit is sloppy.

COPPER PLATING NO PROBLEM BEFORE 1921

Copper plating did not become a problem until the introduction of the halogenated hydrocarbon refrigerants, that include methyl chloride, the "Freons," methylene chloride, ethyl chloride, dichlorethylene, and trichlorethylene.

None of these had been very widely used until about 1921 when a new make of electric refrigerator that used methyl chloride as the refrigerant, was put on the American market. Before this time methyl chloride had been used to some extent in Europe but had not been available here. About that time an American refrigerant manufacturer started its production in commercial quantities. This was the beginning of the trend toward the halogenated hydrocarbon, oil-miscible refrigerants that have since almost completely taken over the household, small commercial, and air conditioning field.

One of the early troubles to plague this pioneer manufacturer of equipment using a halogenated hydrocarbon refrigerant, was copper plating. It did not occur in every installation, but was frequently noticeable and was one of the major causes of discharge valve leakage and other compressor troubles.

EARLY THEORIES

There were almost as many theories as to its cause as there were men who attempted to explain it. One, that at the time gained a good deal of credence, was that it was really an electro-copper plating; that there was either a direct ground of electric current or that in some manner, the system acquired a charge of static electricity that performed the plating process.

Another was that it was caused by moisture in the system; that if a system was completely dry, there would be no copper plating.

Still another was that it came from copper dust originally in the tubing and from filings carelessly allowed to get into the tubing when the tubing was cut and the flare made.

This was not as improbable sounding then as it might seem now, for the wheel type tubing cutter had not been introduced and copper tubing was cut with a hack-saw and squared and smoothed up with a file. In doing this it was difficult to keep copper filings out of the tubing.

THE PROBLEM IS ATTACKED

Finally about 1927 it became so bad that it was made a major project for investigation by the engineering department of this refrigerator manufacturer.

By that time it began to be suspected that the type of oil used had a bearing on the extent and intensity of the copper plating. Also it seemed to be fairly well established that moisture in the system had some bearing on the problem.

So an experiment was started to determine what effect, if any, the type of oil had, and if moisture in the system made any difference. The manufacture of methyl chloride and one of the major oil refiners in the country cooperated in the experiment.

Thirty identical cabinets, evaporators, high-side float valves, and ¼-hp. air-cooled condensing units were set up in a large room. Each was charged with 2½ pounds of methyl chloride fresh from the manufacturer.

The 30 units were divided into 15 pairs. The compressor crankcases of one pair was filled with a certain type of oil. The compressor crankcases of the second pair was filled with another type of oil and so on until all 15 pairs were set up with a different type of oil in each pair.

All sorts of oils were tried; oils of various degrees of viscosity, pour-point, acidity, sulphur content, and other characteristics. Various colored oils were tried, dark, almost green, amber, straw colored, pale and some oils as clear as water.

15 OILS EACH TEST

Thus the 30 units had in them 15 different oils in 15 pairs of units.

(Continued on next page)

the important thing to know about refrigeration tube is

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Revere Dryseal Copper and Revere Aluminum Refrigeration Tubes come in sizes from ⅛" to ¾" O.D., with .035" wall, and are standard in 50-foot coils. You can get prompt delivery from leading distributors throughout the country.

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Wet System, Improper Oil Prove Major Causes of Copper Plating In Compressor

(Continued from preceding page)

In one unit of each pair was put 10 drops of water, just enough so the system was quite wet but not enough to cause trouble from freeze-up at the float valve.

In this way they were able to test not only the 15 oils but also test each in a dry and in a wet system.

The thirty units were then run for 30 days. At the end of that time they were torn down, the refrigerant and oil tested in the chemical laboratory and the compressor completely disassembled and examined. The examination was made under the watchful eyes of the chief engineer, the chief chemist, the engineer in charge of the experimental laboratory, and representatives of the manufacturer of the methyl chloride and of the oil refiner. All of the data was carefully catalogued and tabulated.

The compressors and float valves were then sent to the production department and rebuilt the same as new. The evaporators, condensers, and interconnecting tubing were washed out and baked so that when all were reassembled, they were the same as new units.

TEST REPEATED 10 TIMES

Then the same process was repeated. Again 15 different types of oils were tested in dry and wet systems; the systems again disassembled, studied, the data recorded and tabulated; and the 30 units cleaned, rebuilt, and dried.

This process was repeated 10 times and the experiment took over a year. During that time about 150 different oils were tested, both dry and wet.

During the test, data on the various oils were tabulated, correlated and carefully studied to see if there could be any definite conclusions as to the causes of copper plating.

TEST CONCLUSIONS

General conclusions were quite obvious:

1. The amount of copper plating differed very greatly between the oils.
2. There was no observable copper plating in the units using the water-white oils.
3. The units using the amber or other colored oils showed a much greater tendency to copper plate, especially those in the wet systems.
4. There was greater tendency toward copper plating in the wet units.
5. Although not bearing directly on the copper plating problem, it was found: that an oil of a comparatively high viscosity—not less than 300 seconds Saybolt, at 100° F., was most suitable for use with methyl chloride because, even diluted by absorbed methyl chloride, it still retained, under most normal conditions, sufficient viscosity to assure adequate lubrication; that the compressors using oils of lower viscosity showed abnormal wear.

As a result of this test this manufacturer adopted and standardized on an oil of the following specifications.

1. Must have no "unsaturated hydrocarbons," and that it must be a pure water-white oil.
2. Must contain practically no moisture less than .01%.
3. Viscosity 300 to 320 seconds Saybolt at 100° F.
4. Must be a pure mineral oil, free of vegetable or animal oils.
5. Sulphur content must be less than .15%.
6. Flash point, above 320° F.
7. Pour test, below -10° F.
8. Very low acidity and Sligh oxidation number less than 10.

OIL MAY ABSORB COPPER

Since those early days, when the pioneers had little previous experience to guide them, much more has been learned about what causes copper plating and how it may be avoided.

It has been definitely established that oils that have not been highly refined, have in them certain constituents, including the "unsaturated hydrocarbons" that attack and dissolve the copper in the inside of tubing or other coopper parts. The oils, being in mixture with a miscible refrigerant, are carried throughout the system and are thus put into contact with copper parts of the system.

The copper that is thus picked up by some of these copper-dissolving elements of the oil, is carried along with the refrigerant and oil into the compressor. Most of the oil goes back into the crankcase but some goes into the compressor cylinder.

When the oil, bearing some of the copper in solution, comes into contact with a hot surface, such as a shaft, steel seal ring, pin, piston, piston ring, cylinder wall, valve plate and valves, the oil gives up the copper to the hot surface and the copper is deposited or plated on.

The greater the "copper solubility" of the oil, that is, the more tendency and ability it has to dissolve and pick up copper from tubing, etc., the more rapidly will the copper be deposited, and the faster will the copper plating take place.

WATER ACCELERATES COPPER PLATING

The presence of moisture in the system aggravates and helps carry on this action. The water combines with the methyl chloride to form methyl alcohol and hydrochloric (muriatic) acid, which speeds up the copper plating action.

The Sligh test indicates the tendency of the oil to absorb copper; therefore an oil having a low Sligh number is to be favored.

The "dithizone" test is also applied to determining the relative copper solubility of an oil, and is considered by chemists a somewhat more reliable index of the suitability of an oil in avoiding copper plating.

COPPER PLATING LICKED!

In the almost 20 years since this refrigeration equipment manufacturer carried on this test and adopted the use of the oil that was indicated by the test, their cases of copper plating have become almost nil, certainly negligible.

Cases of copper plating in their equipment have been almost unknown. In the few cases where they did experience copper plating, investigation showed that oil had been put into the equipment that did not meet their specifications, that methyl alcohol was added to the system, or that other unapproved methods were used to dry a wet system.

Some few years ago their service manager stated that since the adoption of the new oil in 1928, he had never seen a piece of their equipment copper plated that he was certain had *only* methyl chloride or "Freon-12" and their oil in it; that this was true not only of dry systems but those had enough moisture in them that there was considerable corrosion from acid—but no copper plating.

As indicated by this experience, copper plating, either with methyl chloride or "Freon-12," can be avoided by the use of the proper oil, and it appears that one of the prime requisites of such an oil is that it must be a water-white oil. On the other had, just because an oil is water-white, it is not necessarily suitable because of other factors.

White oils have been objected to because they are higher in cost than most other oils. This is true; they are highly refined oils and necessarily somewhat more costly. However, the difference in cost on the quart or less used on most small installations is hardly an important one.

(To Be Continued)

Horton's Opens Appliance Shop

ELMIRA, N. Y.—Horton's has opened a new appliance and radio store at 53 S. Main St. The appliance department is under the direction of "Red" Skelley. Milton Meriwether is in charge of the radio department.

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PA 100 is your guarantee of all-around, superior performance

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THOMAS TRUCK of Keokuk

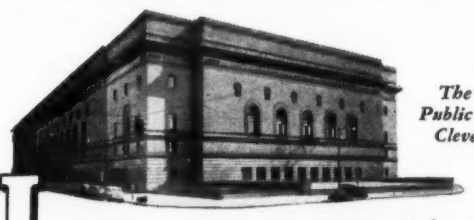
Thomas Western Pattern trucks are suited to general purpose use. Engineered for easy handling and balance so that truck will do maximum amount of work with minimum effort. Easy rolling — strong sturdy construction — perfect balance. Hyatt bearings. Bevel steel nose blade. Thomas also makes many other types of 2 and 4-wheel trucks. Write for catalog MC.

THOMAS TRUCK & CASTER CO.
4835 Mississippi River, Keokuk, Iowa

SALES POSITION WANTED

Aggressive salesman of proven ability in commercial refrigeration field desires position as regional sales manager calling on distributors and dealers for manufacturer of complete line of commercial refrigeration equipment and related products. Ability not only to set up sales outlets but also to see that those outlets produce a steady volume of business. Prefer territory to be eastern Penna. and surrounding area's with headquarters in Philadelphia. Compensation important but not prime consideration. Productive ability will quickly determine how much this representation is worth to a salesminded company.

Box 2633, Air Conditioning & Refrigeration News



The Cleveland Public Auditorium, Cleveland, Ohio

ANSUL Technical Information Headquarters

BOOTH 713
at the
REFRIGERATION AND AIR CONDITIONING EXPOSITION
JANUARY 26, 27, 28, 29

ANSUL CHEMICAL COMPANY
SULFUR DIOXIDE • METHYL CHLORIDE • DRY CHEMICAL FIRE EXTINGUISHERS
MARINETTE, WISCONSIN

To All Refrigeration Personnel:

Please consider this a personal invitation to visit our booth when you attend the Cleveland Exposition. Our booth will be Ansul Technical Information Headquarters. We know that our technical display will be both interesting and educational.

Representatives of our Research and Engineering departments will be present and will welcome the opportunity of discussing refrigeration problems with you.

Our officers and sales personnel are looking forward to this opportunity to greet old friends and make many new ones.

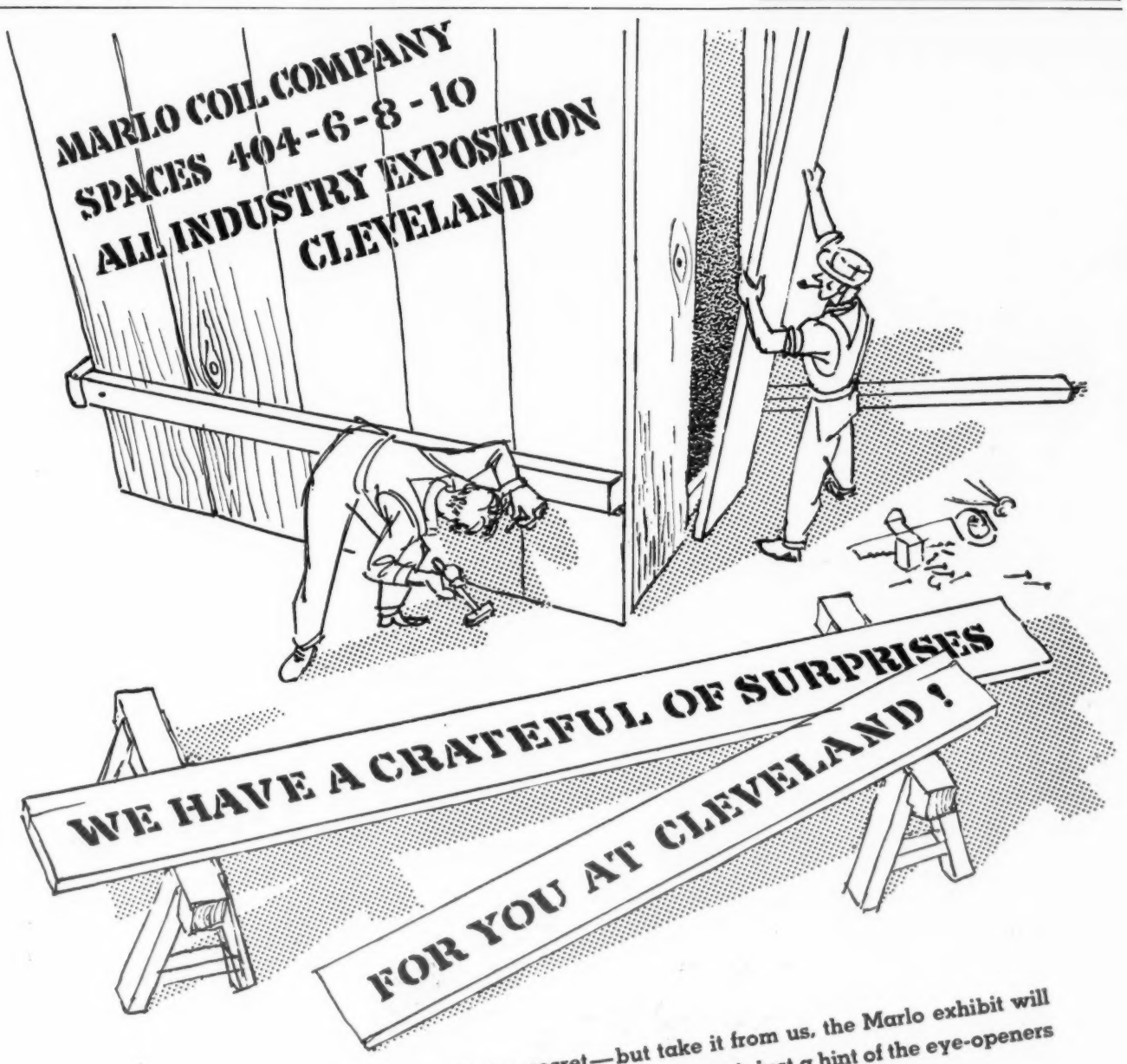
Be sure to visit Booth 713 in the arcade.

Most cordially yours,

President

ANSUL REFRIGERANTS ARE AVAILABLE AT LEADING WHOLESALERS EVERYWHERE

ANSUL CHEMICAL COMPANY
REFRIGERATION DIVISION, MARINETTE, WISCONSIN
DISTRIBUTORS FOR KINETIC'S "FREON-11," "FREON-12," "FREON-21," "FREON-22" AND "FREON-113"



The details are still top secret—but take it from us, the Marlo exhibit will be the talk of the Show again this year! Here's just a hint of the eye-openers we're ready to show you:

- **TWO NEW FORCED CONVECTION UNITS**— a ceiling and a wall type—for walk in coolers and other small commercial applications. They beat anything you've ever seen for streamlined, compact efficiency.
- **SELECTOMATIC* CHARTS**— the new "painless" way to select the right Marlo FUA or FUB Industrial Units at a glance—saves hours of costly calculations.

Whatever you do at Cleveland—**don't miss Marlo!**

MARLO HEAT TRANSFER
Since 1935

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MARLO COIL CO. / ST. LOUIS 10, MO.

One of a series from

The KEY to AIR CONDITIONING

by James J. LaSalvia

Fans

In every air conditioning system a fan will always be used to impart motion to the air.

The air must pass through various equipment before entering a room. This equipment offers a certain amount of resistance to the airflow, which must be overcome. This resistance is totaled and a motor of proper size is chosen to cover this resistance, and the motor is connected to a fan of proper size to handle the amount of air required.

The motor and fan may be directly connected on smaller fans and belt driven on larger fans.

As a general rule, the greater the resistance of a system, the greater the speed of the fan will be required.

Two types of fans used in this work are:

a. The blower or centrifugal type (Fig. 1).

b. The propeller type (Fig. 2).

The common propeller type fan can be adapted to any resistance to about a ¼-in. water gauge for good practice. There are special type propeller fans which can be used for higher resistances.

The blower type fan can be adapted to any resistance pressure.

The normal air conditioning system will vary between ½ in. to about 3 in. water gauge, so that the blower type is the proper fan to use.

The common propeller type fans are used in air conditioning systems chiefly to exhaust the air from the room to the outside, where the occasion arises.

PARTS OF BLOWER FANS

The essential parts of a blower fan are: housing, wheel, bearings, shaft, inlet, and outlet.

TYPES OF BLOWER FANS

There are two types of blower fans which are used:

1. Single width single inlet (S.W.S.I.) as shown in Fig. 3.

2. Double width double inlet (D.W.D.I.), shown in Fig. 4.

The single width single inlet fan has only one inlet, and is a narrow fan. It should be used wherever possible.

The double width double inlet fan has two inlets, and is a wide fan. It should be used only where the head room is not sufficient to install the single width type.

BLOWER TYPE FAN ARRANGEMENTS

The Fan Manufacturing Association has adopted certain fan arrangements for blower type fans as standards throughout the country. There are eight such arrangements, but in this work the first three are generally used. These are shown in Fig. 5.

DIRECTION OF ROTATION OF BLOWER TYPE FANS

Fans are manufactured to discharge practically any direction.

The rotation of a fan is always compared to the rotation of the hands on a clock. A fan is rotating clockwise or counter clockwise depending upon the rotation of the wheel when facing the side of fan where the pulley is located, known as the driving side of fan. On a single inlet fan, the driving is always the side opposite the inlet of the fan.

The discharge and rotation of various types of blower fans are shown in Fig. 6.

(To Be Continued)

Fans Can Be Made to Rotate In Any Direction

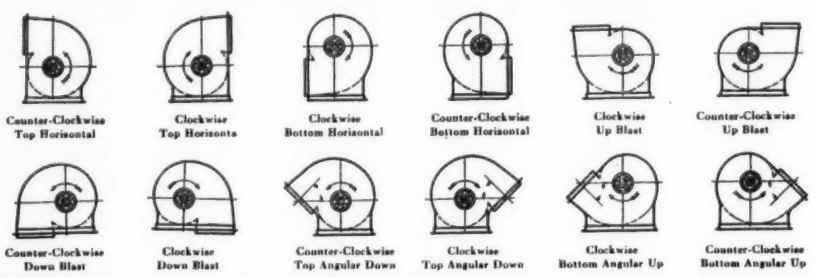


Fig. 6—Some of the many varied directions in which fans can be manufactured to rotate are shown here. This illustration, and the others on this page are courtesy American Blower Corp.

Types of Fans Which Are Used for Air Conditioning

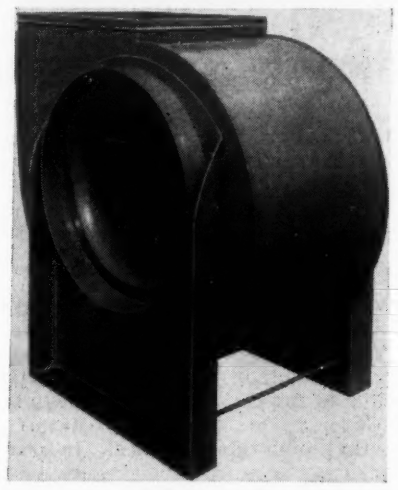


Fig. 1—This is a typical centrifugal or blower fan.

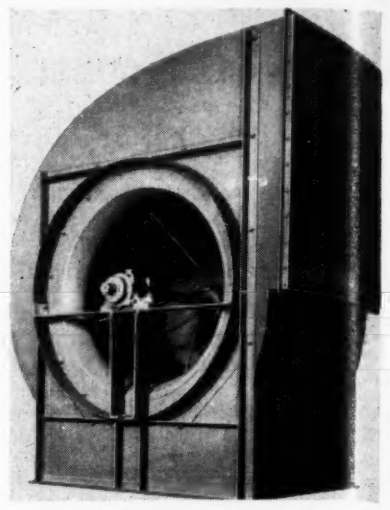


Fig. 3—A single width, single fan is shown here.

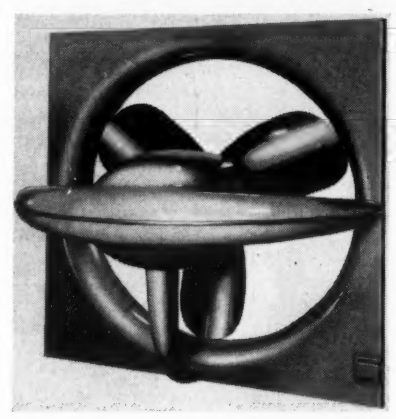


Fig. 2—This is an example of a propeller type fan.

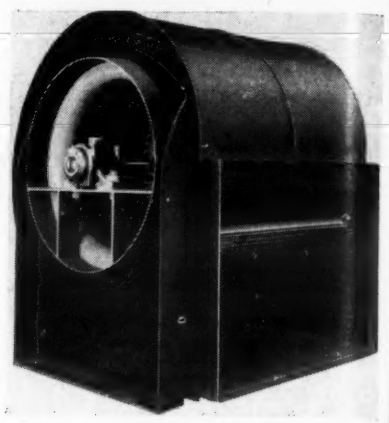
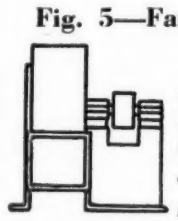


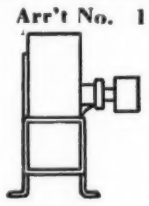
Fig. 4—This is a double width, double inlet fan.

Fig. 5—Fan Arrangements



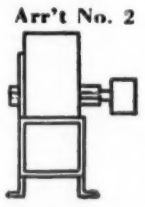
Arr't No. 1

Arrangement No. 1—Housing, overhung wheel, two bearings on drive side, shaft, and pulley.



Arr't No. 2

Arrangement No. 2—Housing, overhung wheel, double ball bearing on drive side, shaft, and overhung pulley.



Arr't No. 3

Arrangement No. 3—Housing, wheel, shaft, two bearings (one on each side of fan), and overhung pulley.

Warning

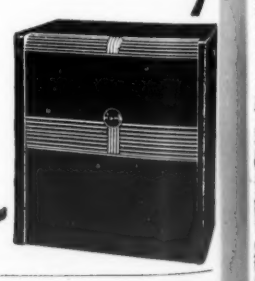
ROOM AIR-CONDITIONER DEALERS EVERYWHERE

Before you sign a franchise, get all the facts on Remington's new Model 10 DeLuxe — "the finest room air-conditioner that money can buy."

This heavy duty 1¼ HP air-cooled unit has already been thoroughly tested, in the U.S.A. and 19 other countries.

Ask NOW, for full information.

REMINGTON
Air Conditioning
DIVISION
Cortland, New York

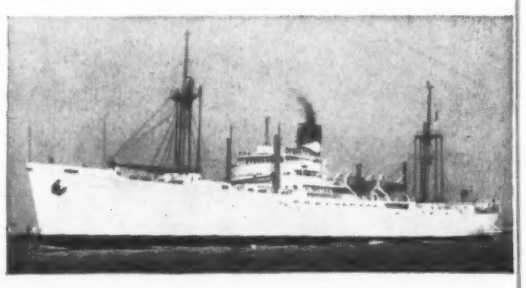


Bridgeport
INNER-SEAL
WEATHER STRIPPING

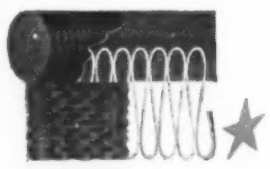
HELPS BANANAS KEEP COOL ON UNITED FRUIT SHIPS . . .

Maintenance of a constant optimum temperature is vital for the safe transport of highly perishable bananas and other tropical fruits. That's why Inner-seal weatherstripping was specified in the special plans drawn for a new class of all-refrigerated ships by the United Fruit Company. On the hatch plugs of the new SS Metapan, shown below, Inner-seal, with its resilient sponge rubber bead, provides an airtight, crevice-filling seal against torrid, equatorial heat. Refrigeration equipment doesn't have to work overtime to compensate for costly leaks that dissipate the cool air circulated through cargo spaces. In addition, the Inner-seal used on these ships has a neoprene coating that resists the ravages of sunlight, extreme temperature variations and salt water, thus assuring longer, more effective service under the toughest marine conditions.

Perhaps your problem isn't keeping bananas cool and calm, but if it involves keeping heat or cold, dirt or dampness in or out, you ought to have the facts on Inner-seal. Write today for data sheet giving complete information.



The SS Metapan, one of nine new all-refrigerated ships added to the Great White Fleet. In addition to cargo she can carry 12 passengers in first-class accommodations.

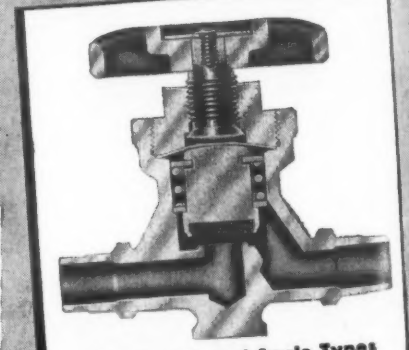


Tough spring steel wire moulded for life in live sponge rubber, providing unequaled flexibility for fitting sharp corners and compound curves.

Bridgeport
FABRICS, INC.
BRIDGEPORT 1, CONN.
Est. 1837

DISTRIBUTORS
Kason Hardware Corp., 127-137 Wallabout St., Brooklyn, N. Y.
Jarrow Products, 420 North LaSalle St., Chicago, Ill.

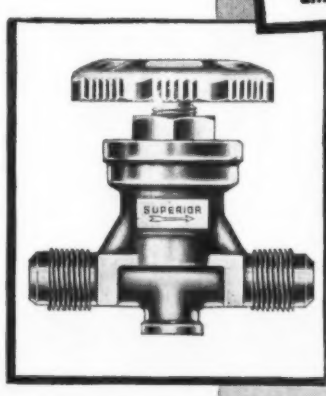
NEW *Life-Time* DIAPHRAGM PACKLESS VALVES

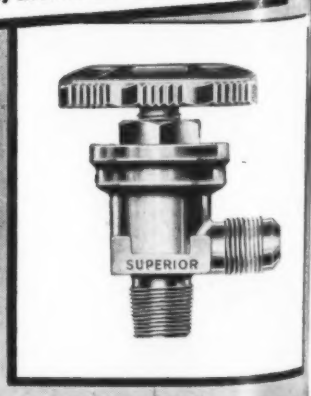


Line, Branch and Angle Types

10 FEATURES OF *SUPERIORITY*—Check them!

1—Rugged—pleasing appearance—symmetrical design.
2—Wrench pads for individually tightening flare connection.
3—Unique solder connections permit soft or silver soldering—*without removing internal assembly.*
4—One-piece, plated lower stem.
5—*Controlled stem travel* assures "Life-time" diaphragm performance.
6—*Controlled seating* results in "Life-time" operation.
7—Large bearing surfaces—polished stem heads, and scientific lubrication assure "Life-time" performance of upper stem and diaphragm.
8—Unrestricted flow—ease of operation.
9—Operates under normal pressure, with flow in opposite direction.
10—No special tools required for disassembly or reassembly.





Ask Your Jobber About "Life-time" Packless Valves They're SUPERIOR!

141

Superior Valve and Fittings Co.
OFFICES IN PRINCIPAL CITIES — STOCKS CHICAGO (A) — LOS ANGELES (33) — JOBBERS EVERYWHERE

New Wage Demands--

(Concluded from Page 1, Column 3)

missed General Electric's recent price reductions as "not for the sake of lowering prices." He pointed out that the reductions were made "only on competitive items."

He declared that electrical workers have $13.03 less purchasing power today than they had in January, 1945, despite wage raises since that time. The union intends to get back as much of this $13.03 as it can, he said.

Matles got his $13.03 figure from cost of living figures compiled in 11 important electrical manufacturing cities.

Over the same period, profits of electrical manufacturers he estimated to have increased 79%.

"Nominal price cuts on automatic washing machines and television receivers" will not reduce the price of "all the basic necessities of the average American family," he added.

G-E Adds 10-Ft. Box--

(Concluded from Page 1, Column 3)

cabinet is roughly 33 in. wide and 64 in. high.

Large interior volume of the refrigerator plus the flexible arrangement of the shelves make it convenient for the farmer to store—in addition to his usual food supply—a cream can, egg baskets, crocks, or other large items. Shelf area totals 17.8 sq. ft.

Los Angeles Code--

(Concluded from Page 1, Column 2)

years, but it was found that no recoveries had ever been made under the bonds filed, so it was decided to drop this feature.

Safety requirements of the code are generally based on the code suggested by the American Society of Refrigerating Engineers in 1939, but there are some differences.

All references to Group 3 refrigerants have also been removed from the code, which requires that any refrigerant not listed may be used only on specific approval from city authorities. Group 3 refrigerants include butane and propane among others.

Florida Gray Market--

(Concluded from Page 1, Column 3)

franchised dealers while about 40 unfranchised dealers in the territory are offering Pureaire units for sale that franchised outlets cannot obtain.

The Parsons Co. long ago recognized the unusual conditions that exist in Florida, he related, and last July began shipping a carload of kitchens—48 units—per week to its distributor, George J. Haas Co. in Miami.

This was double and treble the allotment that that territory would be entitled to, but the company wanted to help break the gray market by attempting to put sufficient merchandise in the hands of franchised dealers to keep the business out of unauthorized hands.

By mid-October, Parsons was forced to give up this plan. It had to tell its dealers not to accept any more orders. It found that it would take the rest of the year to produce enough kitchens to fill orders already taken. These unfilled orders numbered more than the total deliveries made during the campaign, Rishel stated.

Besides, the company felt it could no longer deprive other sections of the country of their fair share of its production.

Unfranchised dealers, however, continued to advertise Pureair kitchens for sale—over the radio, in the newspapers, and in window banners.

Rishel related how, on his visit, he had called upon one "gray marketeer," who was offering 48 Pureaire kitchens for sale in a newspaper classified advertisement.

The address given in the advertisement turned out to be the man's home. He met Rishel and his companions in his bedroom slippers and with a two days' growth of beard.

Feeling they might be intruding into his home, they asked if this was his office.

"No," he replied.

"Well, where is your office?"

"At the south end of the American Legion bar!"

"Where they (unfranchised dealers) are getting their merchandise is a mystery to me. I cannot figure it out," Rishel declared.

"We are shipping our distributors—mind you, distributors, not dealers—units in lots ranging from one to 48 per week. We keep a constant check on our distributors and know that none of them are carrying any inventories on our units.

"In addition we have cut distributor allotments in areas where building activity in the type of structures that would use our units is seasonally slow; for instance in New York state, Indiana, and Michigan.

Rishel indicated that all distributors and dealers had given the company a vote of confidence in its handling of production problems and promised to cooperate in keeping units delivered to them in their own territories.

"We police our dealer and distributor organizations as thoroughly as any company, but we cannot find any sizable leak," he stated.

He pointed out that he has traced some units that got into unauthorized hands through the serial numbers. These, he found, came from scattered sources, only one or two from a single dealer.

By accident, the company discovered one full carload of its units had been diverted to Florida after being originally shipped to an export firm. "We naturally clamped down on the firm that did this," Rishel declared, "but the damage to our dealer morale had already been done."

Some unfranchised dealers are selling obsolete units or units that had not been refrigerated originally, he asserted. They have added some insulation and refrigeration equipment.

NERA To Map Policy--

(Concluded from Page 1, Column 2)

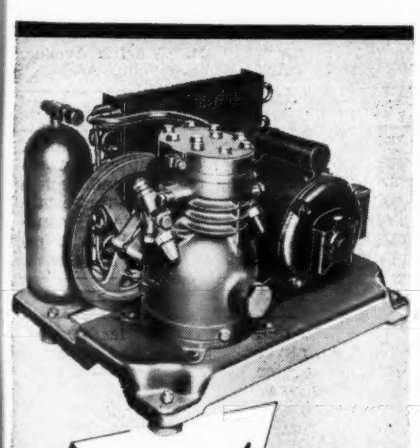
model protection, trade-ins, and service.

This conference, according to an announcement issued by the association, "culminates more than one full year of careful planning to improve the position of the appliance-radio dealer.

"We are now ready to report our findings, decide definite association policies on matters that will have a far-reaching effect on (the dealer's) business. . . ."

Keynote of the conference, as published in the program, is "to discuss and decide the responsibilities of the dealer, the distributor, the manufacturer, and the electric company on the subjects to be covered at the conference and thereby build a stronger foundation on which to construct a better status for the dealer."

Herb Names of Herb Names, Inc., Denver, president of the association, will preside at all sessions.

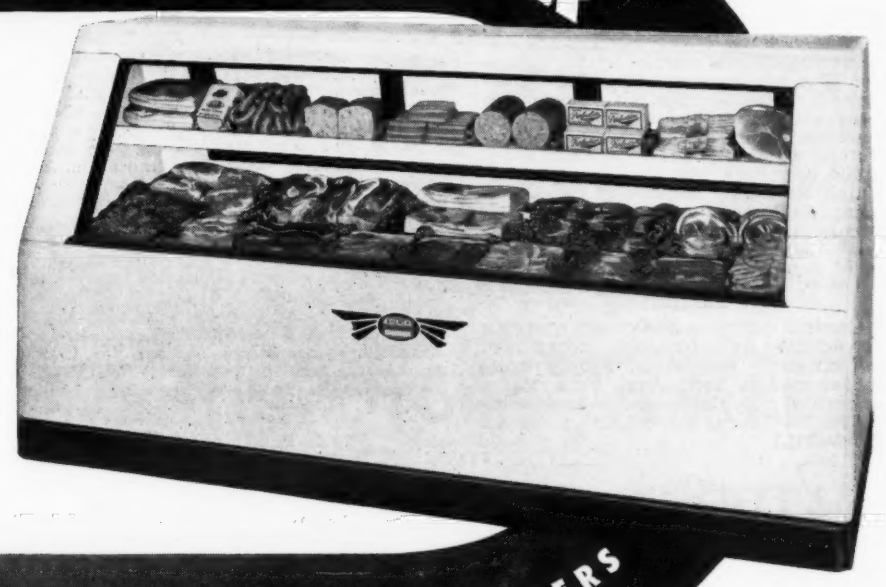


Lehigh BLU-COLD
COMMERCIAL REFRIGERATION

Package Units
Heavy Duty Air and Water Cooled Units
Lehigh Mfg. Co.
Plant: Lancaster, Pa.
Export Department, 160 Broadway New York, N. Y.

TRAFFIC CENTER

The meat department is the focal point in food stores. SHERER display cases naturally attract the flow of traffic by making possible outstanding displays of perfectly kept meat.



SHERER REFRIGERATED MERCHANDISERS
SHERER-GILLETT CO., MARSHALL, MICHIGAN

THE Crown Jewels
OF EMPIRE BRASS MFG. CO., LTD.
LONDON, CANADA

NIBCO
WROT FITTINGS

AS CROWN JEWELS are the cherished possessions of empires, NIBCO WROT Copper Fittings now become the pride of Empire Brass Mfg. Co., Ltd., of London, Canada. This outstanding manufacturer of bronze valves, fittings and specialties for water, gas, steam and oil, has been licensed to produce NIBCO WROT Fittings in Canada.

Through Empire's broad distribution system with branch warehouses at Hamilton, Toronto, Sudbury, Winnipeg and Vancouver, this new line will be readily accessible to the Canadian trade. It will be of the same high-quality that is typical of all NIBCO products. This is assured by Empire's manufacturing experience and their full utilization of NIBCO patents.

NORTHERN INDIANA BRASS CO., 101 Plum Street
VALVES AND FITTINGS SINCE 1904 ELKHART, INDIANA

WANTED—Manufacturer's Agent

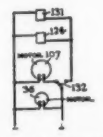
Several good territories open for right men with good Dealer and Distributor contacts. Opportunity for excellent income handling fairly complete line of commercial Refrigeration and Refrigerator items of highest quality. Our present men know of this ad.

BOX NO. 2638
AIR CONDITIONING & REFRIGERATION NEWS

PATENTS

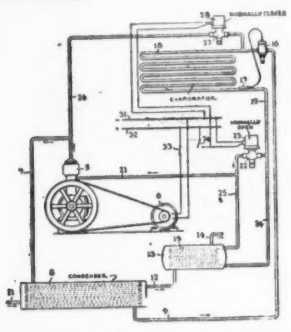
Week of November 18

2,430,938. MEANS FOR AND METHOD OF DEFROSTING REFRIGERATING APPARATUS. Meldon G. Leeson, York, Pa., assignor to York Corp., York, Pa., a corporation of Delaware. Application May 29, 1945, Serial No. 596,524. 5 Claims. (Cl. 62—115.)



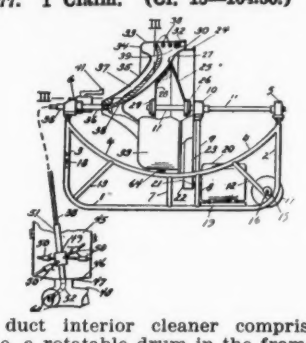
2. The method of defrosting the evaporator of a refrigerating plant of the compressor-condenser-evaporator circuit type having a refrigerant-liquid retaining condenser cooled by a fluid flowing at a temperature materially above 32° F.; which method comprises, stopping the compressor and continuing the flow of condenser-cooling fluid while temporarily affording paths for free flow of vapor from the condenser to the evaporator and free drainage of liquid from the evaporator to the condenser.

2,430,960. REFRIGERATION SYSTEM INCLUDING EVAPORATOR DEFROSTING MEANS. Samuel P. Soling, York, Pa., assignor to York Corp., York, Pa., a corporation of Delaware. Application May 29, 1945, Serial No. 596,523. 5 Claims. (Cl. 62—115.)



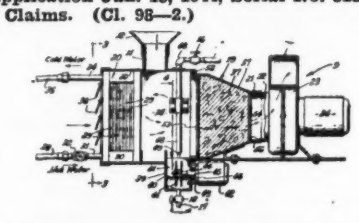
1. The combination of a refrigerative plant of the compressor-condenser-evaporator circuit type; a motor for driving the compressor thereof; a heat-exchanger external to said circuit and subject to heat produced by degeneration of mechanical energy supplied through the motor to the plant; and means capable of being made effective while the compressor runs and serving, when effective, to connect the compressor discharge with the evaporator and to connect the compressor suction to withdraw liquid from the evaporator through said heat-exchanger.

2,431,089. DUCT INTERIOR CLEANING MEANS. Robert P. Therrien, Toledo, Ohio. Application Dec. 27, 1943, Serial No. 515,777. 1 Claim. (Cl. 15—104.30.)



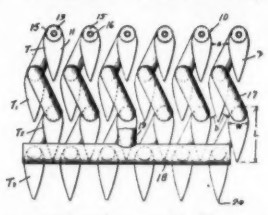
A duct interior cleaner comprising a frame, a rotatable drum in the frame, said frame having a pair of bearings and an additional intermediate bearing about which latter bearing one of the drum ends is inwardly tapered to provide a snake-supporting outer face, and a flexible snake with at least a portion thereof having torque-transmitting inner support engagement upon the tapered face of the drum from whence the snake extends axially from the drum to be directed into a duct interior, said bearings serving to mount said rotatable drum.

2,431,146. AIR CONDITIONING UNIT. Raymond James Steele, Los Angeles, Calif. Application Jan. 18, 1944, Serial No. 518,701. 2 Claims. (Cl. 98—2.)



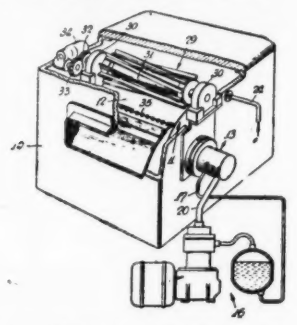
1. An air conditioning unit for an automobile having a wall between the engine and driver's compartment; said unit comprising an elongated horizontally extending casing having opposite ends, one of which is rectangular and the other circular, said rectangular end of said casing providing a housing for a conventional rectangular hot water heater, a blower having an inlet fitting the circular end of said casing, said blower having a rearwardly directed outlet, a tank below and opening into the bottom of said casing, said casing having a wall slopping downwardly from the inlet of said blower to a point adjacent said tank, a pad filling said casing substantially from said tank to said blower inlet, a motor outside of said tank, means driven by said motor for splashing water from said tank to said pad, and a cowl inlet at the top of said casing between said heater and said pad.

2,431,228. HEAT EXCHANGE UNIT. Russell Harvey Burgess, Chicago, Ill. Application June 4, 1945, Serial No. 597,428. 4 Claims. (Cl. 62—126.)



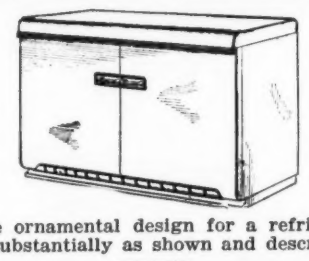
1. An evaporator unit for a normally gaseous liquid refrigerant, comprising a plurality of tiers of tubes of generally tear-drop cross-section, said tubes being arranged when said unit is mounted for operation with their rounded edges as the leading edges uppermost with respect to the flow of air downwardly over and past said tubes and with the tubes in each tier laterally spaced at the same elevation and staggered with respect to tubes in vertically adjacent tiers, and end fittings individually connecting corresponding upper end portions of the tubes in vertically adjacent tiers, whereby said end fittings serve primarily for gas flow communication between said tubes while liquid refrigerant is trapped in the lower portions of said tubes.

2,431,278. METHOD OF MAKING ICE IN SMALL PIECES. Francis M. Raver, York, Pa., assignor to Flakice Corp., Brooklyn, N. Y., a corporation of Delaware. Application Nov. 18, 1942, Serial No. 465,955. 2 Claims. (Cl. 62—105.)



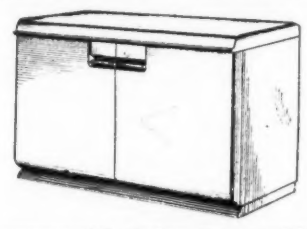
1. The method of producing ice in small pieces which comprises: progressively freezing a mass of water into a thin sheet of ice curved about and traveling about an axis of rotation located parallel to the unfrozen surface of the mass of water; and in a zone located above said mass and in the path of travel of said sheet successively separating relatively narrow elongated sheet portions having substantially parallel sides by making a succession of indentations along similar, spaced lines extending from one side edge of the sheet to the opposite side edge thereof and successively imparting to each sheet portion lying in front of each indentation a linear velocity three to five times as great as the linear velocity of the curved sheet behind such indentation.

147,921. DESIGN FOR A REFRIGERATOR. Roland H. Money, Mount Healthy, Ohio, and Montgomery A. Ferar, Detroit, Mich., assignors to Reynolds Metals Co., Richmond, Va., a corporation of Delaware. Application Aug. 10, 1946, Serial No. 132,430. Term of patent 14 years. (Cl. D67—3.)



The ornamental design for a refrigerator, substantially as shown and described.

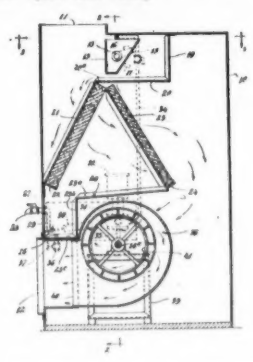
147,922. DESIGN FOR A REFRIGERATOR. Roland H. Money, Mount Healthy, Ohio, and Montgomery A. Ferar, Detroit, Mich., assignors to Reynolds Metals Co., Richmond, Va., a corporation of Delaware. Application Aug. 10, 1946, Serial No. 132,431. Term of patent 14 years. (Cl. D67—3.)



The ornamental design for a refrigerator, substantially as shown and described.

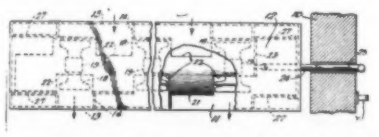
Week of November 25

2,431,389. APPARATUS FOR HUMIDIFYING AND CLEANING GASEOUS FLUIDS SUCH AS AIR. Walter L. Fleisher, New York City, N. Y. Application Sept. 25, 1945, Serial No. 618,438. 6 Claims. (Cl. 183—13.)



1. In apparatus of the character described, gas cleaning and humidifying means, means for dumping a predetermined quantity of conditioning liquid, a baffle positioned to receive the initial impact of the dumped fluid and a pan serving thereafter to receive the said fluid and to deliver it at a point remote from said baffle to said gas cleaning and humidifying means, the distance between said baffle and the delivery point being ad-measured so that sufficient time elapses in relationship to the viscosity of said liquid as to eliminate uneveness due to impact of the liquid on said pan and to permit said liquid to level out and flow uniformly to the said gas cleaning and humidifying means at said delivery point.

2,431,413. FAN. Charles L. Moorman, Millington, Ill., assignor to Union Asbestos & Rubber Co., Chicago, Ill., a corporation of Illinois. Application Oct. 24, 1945, Serial No. 624,248. 5 Claims. (Cl. 230—47.)



1. A fan for use in a refrigerator car or the like comprising in a beam having open sides a rotatable shaft extending lengthwise in the beam, a set of substantially radial blades on the shaft, a housing in the beam around the blades open at the ends and one side of the blades to provide inlet and outlet openings for the blades, and means to move the housing to change the outlet opening from register with one side to the other of the beam.

(To Be Continued)

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ERECTION ENGINEER, 12 years experience erection and maintenance of ammonia and "Freon" equipment. +40 to -100, reciprocating and centrifugal. 33, married, no children. Available after January. Go most anywhere. BOX 2629, Air Conditioning & Refrigeration News.

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SALES ENGINEERS experienced in successfully selling top national-name commercial refrigeration lines to join California's most progressive merchandising organization and sell commercial refrigeration to small industrial applications. You would sell fixture lines and Mills machines. High income positions available throughout California. Write J. CORRIGAN, 4015 Wilshire Blvd., Los Angeles 5, California.

COMMERCIAL AND industrial refrigeration and air conditioning installation and servicemen with at least 3 years experience. 40 hour week, company trucks furnished, $1.80 to $2.00 scale. DRESCO REFRIGERATION COMPANY, 4404 Woodward, Detroit 1, Michigan.

WANTED: SALES Representative to sell air conditioning, refrigeration, heating, and electrical supplies and equipment to dealers. REPUBLIC ELECTRIC COMPANY, Davenport, Iowa.

FACTORY SALES engineer, age 28 to 38 with sales experience, plus application experience, in refrigeration and air conditioning with 5 to 50 HP compressors and condensing units. This is an opportunity to grow with a fast-growing-manufacturer. Write fully about experience and salary desired. SCHNACKE, INC., 1016 E. Columbia, Evansville, Indiana.

SALES CORRESPONDENT, age 25 to 32 with refrigeration and air conditioning engineering experience and education. Must be sales minded and know the technical questions encountered in the sale nationally of 5 to 50 HP compressors and condensing units. Write fully about experience and salary desired. SCHNACKE, INC., 1016 E. Columbia, Evansville, Indiana.

AIR CONDITIONING installation superintendent. High salary, start now. Give complete details as to your qualifications with first letter. SMITH & LOWMAN, INC., Court & Plum Streets, Cincinnati 2, Ohio.

RETAIL SALESMEN who have had successful experience selling top quality commercial refrigeration lines such as Hill, Tyler, Koch, etc., to join one of California's most progressive commercial refrigeration firms. Positions available throughout sunny California. Excellent income. Write stating full qualifications. F. WILLIAMS, 1946 S. Main Street, Los Angeles 7, California.

SALES PROMOTION—On refrigerators for manufacturer, midwest city. Creative idea man for liaison between product sales manager, agency and general promotion manager. Refrigerator sales experience with distributor or dealer desirable. Write full details. BOX 2623 Air Conditioning & Refrigeration News.

EXCELLENT OPPORTUNITY for sales agents now calling on the refrigeration trade. Complete, exclusive beer systems, cube makers, reach-in boxes and similar equipment. Replies strictly confidential. Write BOX 2627 Air Conditioning & Refrigeration News.

MANUFACTURERS' REPRESENTATIVES for a new, thoroughly tested, tried and trouble free Thermal valve for commercial refrigeration and replacement, has outstanding features. Prefer men now covering service engineers and other buyers. Much open territory, commission basis. Write telling lines sold and territory covered. BOX 2631, Air Conditioning & Refrigeration News.

DISTRIBUTOR NATIONALLY advertised air conditioning, commercial refrigeration, domestic and industrial oil burners, wants manager of operations. Five figure position which requires graduate engineer with executive, business, estimating, sales, contract and installation experience. Special emphasis on air conditioning and refrigeration. Connecticut territory. Give full details, confidential. BOX 2632, Air Conditioning & Refrigeration News.

SALESMAN TO contact dealers and contractors for a wholesale concern covering New England States. Opportunity to become member of the firm. BOX 2635 Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

HILL COLD box: Three compartment, 40°, outside 155" long, 60" wide, 84" high, 8" cork insulation galvanized iron lined. Door left end, three doors front, complete with Lipmann "Freon" compressor. "F-12" and water coil, compressor needing minor repairs, connected to 5 HP, 1740, 3 phase enclosed Louis Allis Motor. DECKER-MERCK & CO., INC., Rahway, New Jersey, Rahway 7-1200.

QUALITY BOBTAIL fountains; reach-ins, walk-in boxes—wood, metal; dough retarders; double duty cases—stainless steel, porcelain; dairy, florist, bakery cases; ice cream hardening cabinets; thermopane frozen food cases; milk, sandwich coolers; stainless steel back bars; with machines. Equipment made to special order. FRIGITEMP CORP., 931 Bergen St., Brooklyn 16. MA 2-9093.

REDUCING INVENTORY of new Universal condensing units with motors in original crates; ⅓ HP $80; ½ HP $95. HERBEN EQUIPMENT COMPANY, 2630 Fifth Avenue, Pittsburgh 13, Pa.

FOR SALE at reduced prices, 2-tap all stainless steel direct draw boxes complete with blowercoil $275 F.O.B. Chicago, Illinois. 3-tap all stainless steel direct draw boxes complete, $340. GEORGE HILGER CO., INC., 8444 So. Racine, Chicago, Illinois.

JACK & HEINTZ fractional horsepower motors. Complete line of various sizes: ⅛, ¼, ½, ½-110/220 AC 60 cycles; 115/230 AC 50 cycles. Available for immediate delivery. Maximum discounts. Export Dept., S. J. O'BRIEN SALES CORP., 560 West 34th Street, New York 1, N. Y. Telephone WI. 7-2100.

FOR SALE: 6 new Pacific packaged air conditioners, ½ ton, window mount, air cooled with either open or sealed type units. (Pacific models 50 WA and 50 WAO.) $175 each. Factory cost is $231. O. K. RADIO & APPLIANCE CO., 1329 So. Staples Street, Corpus Christi, Texas. .

MILLS DIRECT drive condensing units. ¼ HP $67.00, ⅓ HP $71.00. Brand new in original crates. Prompt shipment while they last. RECO PRODUCTS DIVISION, 2024 Market Street, Philadelphia, Pennsylvania.

SEALED CROSLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor. Corrects leaky terminals on all Crosley "F-12" units. Set of three $5.25 (Part No. 1020) Installation tool 20¢. Immediate delivery Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

SACRIFICE CONDENSING units new in original crates, water cooled. Copeland 3 HP $395; Hussmann 3 HP $395; Hussmann 5 HP $490; Hussmann 7½ HP $595; all complete with motors, water valves and controls. Wire or write WAND'S, INC., 1070 St. Charles Avenue, New Orleans, La.

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DEALER IN refrigeration appliances currently operating well equipped workshop and maintaining trained staff desires exclusive Netherlands agency for established American refrigeration manufacturer. Apply to: Fa P.H.v.d.Ven, Kleverlaan 7, Haarlem.

BUSINESS OPPORTUNITIES

MIAMI, FLORIDA—one of leading refrigeration, air conditioning, and appliance sales and service establishments—in same location ten years. Over $150,000.00 yearly sales. Business with profitable past and unlimited future. Netted over $20,000.00 past year. Located in fastest growing city in U.S.A.—Miami. Inquiries confidential. BOX 2565, Air Conditioning & Refrigeration News.

ESTABLISHED REFRIGERATION, Appliance and Electric Supply Company. Sales and Service. Business in the heart of Wisconsin vacation land. Ideal building with garage, warehouse, shop, large store, office, and 6 rooms. For sale or lease. Master dealer franchises for top line. National advertised merchandise. BOX 2634 Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

DISTRIBUTORSHIPS ARE now available in a number of good Southwest and middle West towns & cities, and in parts of Florida, to established consumer sales and contracting organizations, for distribution of a new and modern all-metal exterior venetian blind. The manufacturer is a large well established Southwestern firm. A complete national organization is in the making. National advertising—telephone listings—sales assistance—exclusive territory to qualified distributors. For information write P. O. BOX 1144, Houston 1, Texas. Give your company name, bank references and experience record.

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MISCELLANEOUS

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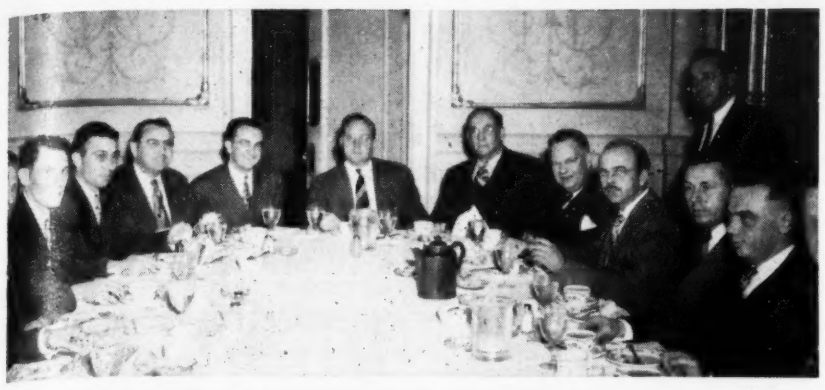
Planning Western Refrigeration Show



Policies and procedures for the Second Western Refrigeration Show were formulated at a recent dinner meeting of officers of the California RSES and committee members for the 2nd Annual Western Refrigeration Educational Exhibit and Conference. The Whitcomb hotel in San Francisco was the scene of the meeting, part of which is shown in the above photo. Those in full view of the camera are: (left to right) W. Dougherty; Merle Soden, educational director, Calif. RSES; Vernon Denny, asst. secretary, Calif. RSES; David Fagg, general chairman; J. Pat Riley, president, Calif. RSES; W. W. Allison, president, International RSES; H. T. McDermott, secretary, International RSES; W. E. Wharton, coordinating chairman; H. J. Dike, Jr.; and M. B. Willis. Lloyd Thomas is standing at right. Dates for the Western Refrigeration Show are April 30-May 2.

Another view of those attending the session shows David Fagg and M. B. Willis standing in front of C. L. Rusten, publicity chairman; R. F. Cooke, general arrangements; and W. E. Wharton.

Executive Poll Forecasts Rising Dollar Volume In First 6 Months of 1948

NEW YORK CITY—Although in a recent industrial poll more than 60% of the executives estimated dollar volume would be up during the first half of the new year, much smaller changes were predicted for volume of production and shipments.

Higher prices, of course, were given credit for the estimated rise in dollar volume that should outdo the corresponding period of 1947.

Approximately 22% of the National Industrial Conference Boards members who participated in the survey didn't look for any alteration in dollar volume, while about one out of six figured sales volume would actually drop.

Characteristic of other surveys, this opinion-sampling pointed to the material shortage as the biggest single obstacle to increased output, even greater than the labor shortage. Consumer demand prospects, however, were generally termed "favorable."

Three out of five executives surveyed felt that during the first six months production would be unable to keep pace with new orders. About 10% of them took the opposite view. The remainder answered that output and demand would probably keep in balance.

As for increasing plant capacity, not many new ventures are contemplated for the period, it was indicated. What activity there is in this field will consist principally of plant modernization and retooling as well as carrying through programs begun earlier.

While shortages will prevent a boost in output at some plants, others contemplated no acceleration "since nearly all available capacity has been fully utilized for some time." A few will not be scheduling increased production due to the demand situation.

Besides steel the items mentioned most often as being in short supply were: castings, pig iron, some electrical supplies and equipment, coke, some chemicals, steel scrap, paper, and fuel oil.

"Many companies," a NIC Board statement said, "enjoy backlogs which will permit them to produce at current high levels for months to come and substantial amounts of additional business appear to be in sight.

"However, the experience of a few producers during 1947 indicates that backlogs 'can dwindle very rapidly' under adverse conditions.

"In submitting estimates and forecasts, businessmen called attention to the numerous uncertainties in the business picture, with particular emphasis placed on the indefinite effects of the Marshall Plan. The progress of inflation and its uncertain effect on buying was also frequently mentioned.

"Considerably less concern was expressed regarding labor unrest than a year earlier, but some executives expected another round of wage demands."

Trio Incorporates Antarctic Home Freezer & Food Service

BUFFALO, N. Y.—Antarctic Home Freezer & Food Service, Inc. has been incorporated here with capital of 200 shares. Incorporators are Joseph Cohen, Ernest Lombardo, and Evelyn Pinkowski.

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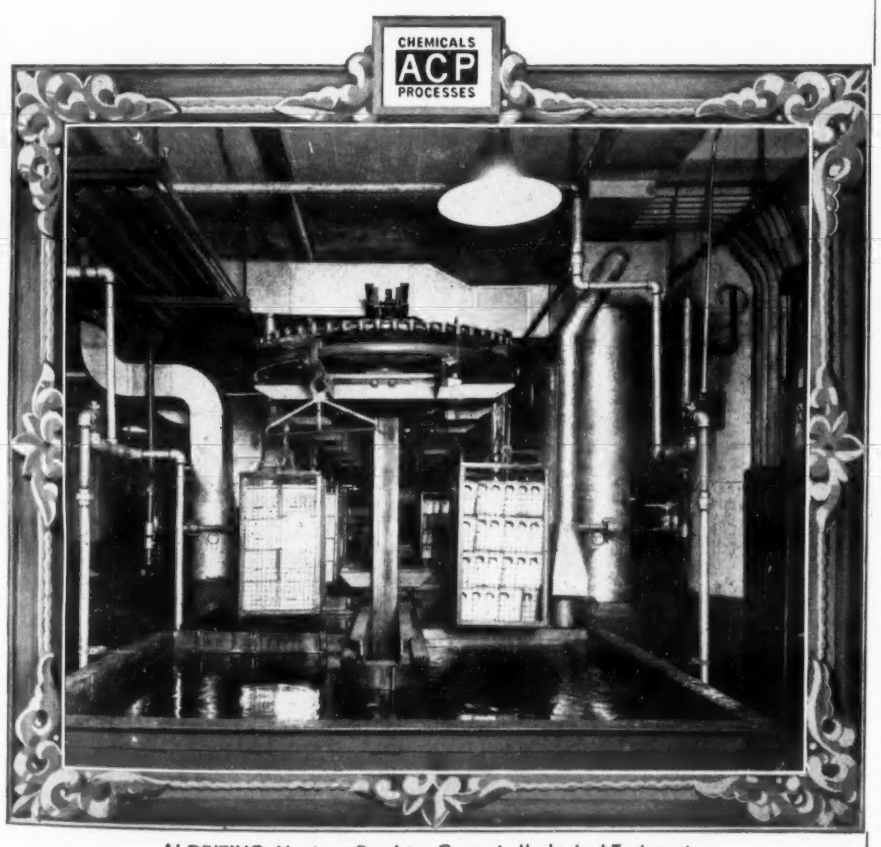

ALODIZING Aluminum Regulator Covers in Mechanized Equipment.
Photograph courtesy of the Minneapolis-Honeywell Regulator Company

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New Appliances Introduced at Marts--

(Concluded from Page 1, Column 5)

Water heater prices are down $5, $10, and $20.

Current prices of G-E's dishwasher, sink, and Disposall are as follows: the cabinet-type dishwasher, $234.75; the electric sink, including the dishwasher, $324.75; the Disposall, $118.75; and the drop-in dishwasher for custom-built installation, $209.75.

The prices of corresponding Hotpoint models have been changed accordingly.

Laundry equipment and home freezers were not affected by the price reductions.

'WALKIE-TALKIE' SETUP FEATURES G-E EXHIBIT

A novel feature of the G-E exhibit which attracted considerable attention was the company's "Walkie-Talkie," consisting of a refrigerator-home freezer combination with a dummy head on top. Both the cabinet and the head are animated by electronic remote control.

The "Walkie-Talkie" invited visitors into G-E's space, "walked" forward, backward, sideways, and in circles; "talked" about its various features; and carried on conversations with on-lookers. During the demonstrations, the refrigerator doors opened and closed and drawers and shelves slid in and out magically.

Intended for special store promotions, demonstrations, and the like, the "Walkie-Talkie" is a perfected version of the unit shown at the winter market in 1941.

Another feature was a dishwasher demonstrator with a lucite cabinet which allowed visitors to see what happens inside the unit.

In addition to its other appliances, G-E was showing an engineer's sample of a 40-gal., counter-height, table-top water heater to be introduced soon. It will have the same dimensions as the 30-gal. model and will be available with either single or twin elements.

Estate Heatrola Division of Noma Electric Corp. was showing its lines of four electric and five gas ranges and a new line of Oil Heatrolas (two "Hi-Boy" and two "Low-Boy" models). The ranges had been shown at previous markets but have just been put into production. The Oil Heatrolas are scheduled to go into production in March.

NEW GIBSON FREEZERS

Visitors to the Gibson space saw that firm's new 6.59-cu. ft. home freezer (Model HF-618). This model provides slightly more storage space through elimination of the glass interior doors on the former model. The new freezer has two large compartments and two smaller ones. Another feature of this model, scheduled for production in March, is a hole in the handle so users can put a lock on it if desired.

Along with its 4-cu. ft. electric trailer refrigerator and ice refrigerator, Sanitary Refrigerator Co. displayed a 6-cu. ft. trailer refrigerator, which is scheduled to be in production shortly; the 10¾-cu. ft. "Trizone" unit, which has just gone into production; and an upright version of the Model 1248 chest-type freezer.

The first showing of Ben-Hur Mfg. Co.'s new 18-cu. ft. freezer was held during the market. This freezer, which is now in production, will retail for $554, according to a company representative.

Three new stainless steel freezers were introduced by Amana Society. They are Model 200 S, a walk-in with 24 cu. ft. of freezer space and 100 cu. ft. of cooler area; Model 24 S, of 24-cu. ft. capacity; and 30 RS, a 30-cu. ft. unit for remote installation. They are priced at $1,495, $695, and $795 respectively. Production is starting now and all should be on the market by April, it was stated.

A company spokesman said the price of the Model 110 freezer (10 cu. ft.) had just been increased from $349.50 to $379.50. Model 50 (5 cu. ft.) remains at $239.50.

Unveiled in the Cribben & Sexton Co. space was a new postwar line of four Universal gas ranges. One model is now in production, with the other three to start coming off assembly lines between March and May, a company representative said. The ranges have been tentatively priced from $244.50 to $389.75.

Although it had no new refrigerators on display at the market, Crosley will introduce a complete new line at a distributor meeting in Cincinnati March 23, 24, and 25, according to an executive of the firm.

Two freezers introduced earlier were shown in the Deepfreeze space. They are the B16-48, priced at $599.50, and the B5-48, priced at $239.95. A spokesman said these models are now being delivered.

EASY SHOWS SPINDRIER

Easy Washing Machine Corp. had a new 1948 "Spindrier," with automatic spin-rinse, to show visitors. In this unit, known as Model 20 SS 48, fresh rinse water "needle-sprays" an entire load and at the same time a whirling basket spins off suds, it was pointed out. Production on this model is scheduled for "sometime in the first quarter."

Schaefer, Inc., showed off its 6, 12, and 18-cu. ft. all-white freezers for 1948. Among the features of the line, due to go into production Jan. 10, are counter-balanced lids. A company representative said a new superstructure for the Schaefer display cases would be introduced in the near future.

The big news in the Admiral exhibit was the initial showing of new matching television consoles, radio-phonograph combinations, and record cabinets, and a new plastic table-model television unit. The television console in walnut finish is priced at $299.95, as is the radio-phonograph, and the table-model television unit sells for $169.95.

The Coleman Co., Inc., took advantage of the market to show off a new LP-gas water heater which is now in production. Available in 20, 30, and 45-gal. sizes, the heater will be followed by natural gas models, a spokesman said.

A representative of Altorfer Bros. Co. said the ABC-O-Matic washer shown at the summer market is now in production. Featuring "centric agitation" and "scum-free running rinse," the washer retails for $249.95.

New entry in the automatic washer field is the "Whirlmatic" being introduced by the Nineteen Hundred Corp., St. Joseph, Mich. The "Whirlmatic" is quite similar in design to the new Sears automatic washer (which Nineteen Hundred Corp. makes) but has some differences.

This new automatic washer features agitator-type washing action, automatic wash and rinse cycle with seven different kinds of rinses, a whirling damp-dry action, three-point suspension, and automatic shut-off for off center loads. Washer tub is mounted on a three-point suspension.

An optional feature is a "suds return" mechanism. A special setting on the control dial permits suds which are automatically pumped into a laundry tub before the rinsing cycle, to be returned with some fresh makeup water to the tub, and thus permitting another washing to be done.

"Whirlmatic" is priced at $269.95 without the suds return, and $289.95 with it. Deliveries are expected to start in April.

MORE WASHER NEWS

Other news on the washer front:

Blackstone Corp. is going to emphasize—in its automatic washer promotion—"no thermostat to control the water temperature for washing, but rather three temperature settings which will permit the housewife to set a temperature and then to feel the water coming into washer to determine to her own satisfaction if it is right."

A "table top" or "flat top" wringer-type washer was shown by the Automatic Washer Co. of Newton, Iowa. When tne housewife desires to use the wringer, a touch on a foot pedal shoots the wringer assembly up through the lid. Wringer features new special control and releases.

The Barton washer booth declared that "three speeds are necessary for proper washing. Slow speed for dainty fabrics, medium for sheets and toweling, and fast for heavy work clothes, soiled garments." Barton also features a three-speed wringer.

Bendix Home Laundry was putting considerable emphasis on its dryer and ironer, and was making much of figures showing that in 1947, 25 cents of every dollar spent for washers went to Bendix, and that according to a Dun & Bradstreet survey, 34% of all families planning to buy a washer in 1948 plan to buy Bendix.

Thomas W. Berger, Inc. of Cincinnati was making a special offer on its "Saniway" garbage eliminator, to hold good during the course of the mart. It was offering three of the Saniways, at dealer cost of $251.91 and retail price of $419.85, with one of the units being a complete sink demonstration unit for use by the dealer.

Other outstanding display ideas (which dealers could use) included—

The Vornadofan balloons, large plastic covered balloons constructed like an outseam softball, which twirled above the airstream of the fans, demonstrating its "tornado like" circularizing action.

The glass-front Dishamatic automatic dishwasher display, showing just how the washing action functioned.

The panels describing the display features of the Electromaster line of ranges, are probably the best looking material of its type at the show.

Nominated for the most comfortable booth, the Fresh'nd-Air fan and humidifier display, which had some stock models in operation.

G-E Reaches Million Mark

ERIE, Pa.—The one-millionth General Electric refrigerator produced since the war rolled off the assembly line at Erie Works recently.

The millionth since the war was produced, assembled, and shipped by members of the second shift.

MOTORS

New Reliance, Wagner, Fairbanks-Morse electric motors in stock for immediate delivery, normal and high torque, 1 to 75 H.P., 208 to 220/440 volt, 3 phase, 60 cycle, in original crates, maximum discounts from manufacturer's list, most of motors for refrigeration compressors. CONDITIONED AIR, INC., Dept. "W," P.O. 2429, Charleston, W. Va.

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Pressure Gauges
Dial Thermometers
★The gauge with the Recalibrator
Ask for this New Refrigeration Booklet
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SALESMEN

New York and Philadelphia Residents

Two full-time positions to sell established line of valves, fittings, and accessories to refrigeration, air conditioning, and bottled gas equipment manufacturers, wholesalers, and jobbers. Exclusive New England and Middle Atlantic territories.

Prefer graduate engineer age 25-35. Industrial selling experience highly desirable. Salary and commission. All legitimate expenses paid. Own automobile desirable.

If interested and qualified, write for application to James N. Fullerton, Superior Valve & Fittings Co., Pittsburgh 26, Pa. Philadelphia applicants interviewed by Mr. Fullerton Jan. 22 at Bellevue-Stratford hotel. Philadelphia, and New York applicants Jan. 23 at 2303 Lincoln Bldg., New York.

SEE YOU AT THE SHOW

Drop in at the BUSH Display at the All-Industry Refrigeration and Air Conditioning Exposition at Cleveland, January 26 to 29. See the complete BUSH line of heat transfer products . . . *all available* NOW *through local refrigeration and air conditioning wholesalers.*

Notice the better design . . . superior engineering . . . sturdier construction of BUSH Products. And remember that these features . . . plus BUSH Service . . . mean greater customer satisfaction and more profit for you. Look for the famous BUSH Trade Mark on the heat transfer products you buy. It's money in your pocket.

The brand new BUSH plant in West Hartford, Connecticut (shown below) . . . one of the largest and most completely equipped in the industry . . . is "headquarters" for the finest group of refrigeration and air conditioning engineers in the country . . . the BUSH Factory Representatives. Their knowledge and cooperation have helped us grow during the past forty years . . . have helped make the BUSH Trade Mark stand for soundly built products and the alert application of the newest heat transfer principles.

Get acquainted with these BUSH Factory Representatives. They're good men to know. Chances are they can help you with plans and specifications on your next important job.

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WILL BE FRANCHISED * BUYERS EVERYWHERE
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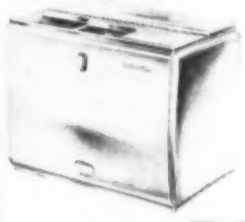
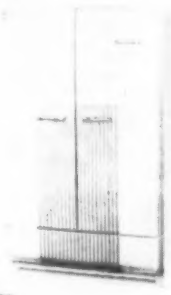
NEW STREAMLINING * NEW ENGINEERING FEATURES

SO COMPACTLY DESIGNED THAT THE SPACE REQUIRED IS ABOUT THAT OF THE AVERAGE 12 Cubic Foot Refrigerator, but you actually get a Refrigerator with 22 Cu. Ft. normal temperature . . . the Combination Refrigerator is 19 Cu. Ft., half Zero—and half normal and the all Zero refrigerator is 18 Cu. Ft.
—And the *BUXTONAIRE* DRY Cooler for bottled beverages and food products.



All Inquiries will be personally contacted within a few days.



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1960 E. 48th St. Phone LUcas 8158 Los Angeles (11) Calif.

General Sales Manager, E. George Sanders
3120 N. Main St., Dayton 5, Ohio